

---

## Broadband Update: Raising Our Long-Term Cable Modem Forecast

---

### Summary and Investment Conclusion

We are maintaining our 4.5 million 2002 cable modem additions for the U.S. cable sector, but increasing our long-term forecast beginning with 2003. In 1Q02, we saw three separate events impact the future of the cable modem roll-out in the U.S. These events all support our decision to increase our long-term forecast.

- On February 28, @Home shut off its network service and closed its doors, bringing the first major phase in the deployment of residential broadband to an end. Life after @Home will provide the MSOs with better economics and more flexibility to provision tiered speeds and multiple ISPs. We anticipate a surge in weekly installations in 2Q02-4Q02 when compared to the prior year periods. The same acceleration will be evident in seasonally adjusted run-rates.
- Comcast and AT&T Broadband signed very different multiple ISP (Internet service provider) agreements with United Online and EarthLink, respectively, the first of what we believe will be many more multiple ISP agreements among the MSOs.
- The FCC ruled that cable modem service is an "information service" regulated by the FCC under Title I, and not by the local franchise authorities. By not classifying the service as a Title II service, cable companies will not face "common carrier" regulation.

---

**Our more aggressive modem forecast is somewhat driven by Telecom analyst Simon Flannery's belief that RBOCs are more focused on profitability and ROI than on an aggressive DSL deployment.**

---

### Internet Access in 2002 and Beyond

We are reiterating our previous estimate of 4.5 million cable modem additions in 2002 in the US. This compares to 3.4 million additions in 2001 and 2.4 million in 2000.

We believe the 4.5 million additions forecasted for 2002 will be back-end loaded in 2002. This is primarily a result of two factors. First, the former @Home affiliates spent much of 1Q02 transitioning customers onto their own networks. Second, Adelphia and Charter are still opening up

significant new footprint for data in 2002 that will increase their addressable subscribers during the year.

**We are raising our long-term modem forecast.** Our new forecast for 2006 cable modem subscribers is 34-35 million versus our previous estimate of 29 million. We believe additions will accelerate approximately 5-10% per year from 2002 through 2006.

---

**We expect there will be 45 million residential broadband subscribers by 2006, versus 11 million at the end of 2001.**

---

We view the three events mentioned above as positive data points supporting an accelerating deployment of cable modems. Looking forward, these data points translate to trends that we expect to be evident through the next five years.

- First, the demand for residential broadband access continues to be strong despite flat to rising prices. We believe that the MSOs affected by the @Home transition have re-established their installation rates in March. For the MSOs that did not use @Home, 1Q02 additions are ahead of the 1Q01 pace.
- Second, several operators have signed multiple ISP agreements. In effect the ISPs earn a royalty by upgrading existing dial-up subscribers. For the cable operators, the difference between wholesale and retail RPU is less than the average marketing cost per subscriber over the weighted average life. We expect 8-10% of the 2003 installed base of cable modem subscribers to subscribe via a wholesale package.
- Third, the RBOCs have generally shifted to a more controlled subscriber growth model, highlighting instead regulatory issues and capital spending containment programs. Morgan Stanley Telecommunications analyst Simon Flannery is increasingly cautious regarding the RBOC plans for residential DSL deployment given the RBOCs current focus is profitability and ROIC.

**We believe that approximately half the 90 million Internet subscriptions forecast for 2006 will have broadband access. Of the 45 million residential broadband subscribers**

expected in 2006, we believe cable will take over 75% of the market. Our aggressive market share forecast for the cable industry is somewhat driven by Simon Flannery's belief that annual residential DSL additions will peak in 2002 at 1.7 million. He notes that this trend is ultimately dependent upon how aggressively the RBOCs are willing to push the product.

## Exhibit 34

## How'd They Do?

(In Thousands)

## Cable Modem Subscribers (In Thousands)

	MS 4Q01E	Actual 4Q01	Prior 2002E	Revised 2002E	Prior 2003E	Revised 2003E
Adelphia	405	378	787	787	1,092	1,219
AT&T	1,571	1,512	2,396	2,292	3,432	3,564
Cablevision	499	507	754	769	1,029	1,074
Charter	620	608	1,201	1,201	1,794	1,794
Comcast	953	948	1,526	1,526	2,084	2,145
Cox	880	884	1,332	1,365	1,783	1,943
AOL Time Warner	1,820	1,783	2,948	2,953	3,989	4,194
Insight	90	88	190	171	277	282
Other	675	675	746	785	879	896
Total	7,513	7,381	11,879	11,848	16,279	17,112
Net Additions						
Adelphia	90	62	409	410	305	432
AT&T	184	125	884	780	1,036	1,272
Cablevision	76	84	247	263	275	304
Charter	112	100	593	593	593	593
Comcast	160	155	578	578	558	619
Cox	101	104	448	481	451	581
AOL Time Warner	275	238	1,165	1,170	962	1,241
Insight	5	3	102	83	87	111
Other	225	225	71	110	132	110
Total	1,228	1,097	4,498	4,467	4,401	5,264

E = Morgan Stanley Estimates

By 2006, we expect total residential online users in the U.S. to reach 73-74 million equal to 63-64% penetration of U.S. households. This figure adjusts for subscribers who take both broadband and a dial-up service. Our estimate of 45 million residential broadband subscribers implies that approximately 40% of total U.S. households take broadband access by 2006. We believe the dial-up market is maturing, and after 2002, we expect the total dial-up subscriber base to start to decline approximately 3-5% per year.

## Breaking Down Broadband

Regulatory and business issues will impact future deployments to a greater extent than technology. Technology has been the key determinant in the cable versus xDSL battle to date. It is unlikely that this competitive advantage will erode in the next two years.

Morgan Stanley wireline analyst Simon Flannery believes the RBOCs indicate they would be more aggressive de-

playing xDSL if the regulatory environment around wholesale access were revised. Under current regulations, the RBOCs are mandated to offer wholesale access to third-party ISPs. While they are able to negotiate pricing levels on these agreements, 271 approval (approval to offer long-distance service to customers in that state) is somewhat dependent (among other requirements) on state PUC approval of pricing plans and line conversion policies on wholesale xDSL.

However, Simon Flannery does not believe that a change in regulation would immediately lead to more aggressive xDSL deployments. He does not believe the economics of deploying residential xDSL materially improve as a result of a regulatory change. In addition, wholesale access generates a three-month payback for the RBOCs without any start-up operating losses. Rather, Flannery believes that the RBOCs' focus on reducing capital spending and generating free cash flow has led them to slow their DSL deployments. The ILECs' investors are focused on EPS, which is negatively impacted by start-up costs and line upgrade capital associated with xDSL deployments.

An additional cost for the RBOCs related to xDSL deployment is the cannibalization of second phone line service. Despite the lower ARPU on second lines versus xDSL (\$15-20 versus \$45), we estimate that second line service is better than a 75% margin and does not generate start-up costs. This is particularly the case when second line service is layered with high-margin vertical services.

Flannery believes that a more aggressive xDSL deployment by the Bells will only occur when cable telephony competition becomes more of a reality and the RBOCs feel the need to incur losses to protect their installed base.

The higher incremental subscriber acquisition costs on xDSL drove the RBOCs to raise prices in mid-2001 on the product. The cable operators soon followed suit.

- Our assumption is that cable modem and xDSL ARPU remains strong at \$38-45 per month. We expect ARPU to decline modestly beginning in 2004 as wholesale access becomes a meaningful piece of the cable modem business. The xDSL pricing assumes declining access prices offset by incremental value-added services.
- Increased cable telephony penetration could lead to more aggressive xDSL deployments. We do not be-

Broadband Cable Television - April 5, 2002

Please see the important disclosures at the end of this report.

lieve, however, that the RBOCs will more aggressively market or discount xDSL until the economics improve or they feel the need to defend their installed base of local lines.

We project 45 million residential broadband subscribers in 2005, versus 11 million at the end of 2001. Of this 2005 total of 45 million, we expect cable to serve 35 million, with xDSL serving the remaining 10 million. This continued share lead by cable is due to a combination of factors. These include the lead that cable has built to date; the low churn on high-speed data, leading to more difficult xDSL conversions from cable; and the RBOCs' continued focus on its commercial customers, the regulatory environment, and long-distance entry.

#### **@Home Ends and Self-Reliance Begins**

AT&T, Cox, and Comcast, @Home's largest affiliates, were the companies most affected by the accelerated transition off the @Home network in 1Q02. To a lesser extent, Adelphia and Charter were also affected in 1Q02.

There were two separate transitions that occurred. First, operators provisioned connectivity to their data subscribers using their own IP provisioning system, primarily their own owned fiber. Second, cable operators ported e-mail addresses, and replaced subscribers old @Home.net email addresses with their own proprietary model.

**The US cable operators that performed this hasty transition met with varying levels of success.** However, we do not believe that the RBOCs were nimble enough in their marketing — and, more importantly, in their provisioning capability — to take advantage of service interruptions during the cable transition.

#### **Leveraging Core Competency Through a Multiple ISP Strategy**

By 2003 we expect 15% of the total US cable modem subscriber base to come via wholesale arrangements. These arrangements between the MSOs and unaffiliated ISPs, we believe, will allow the cable industry to accelerate its unit growth while improving the overall economics. For most MSOs the discount on the wholesale ARPU is smaller than the reduction of marketing and customer service costs.

Higher EBITDA per subscriber under wholesale agreements is somewhat offset by the fact that the customer relationship is with a third party and potential future revenues would likely go to the ISP rather than the MSO. The current

agreements by Comcast, AT&T Broadband, and Charter however, have allowed the MSO to retain the billing relationship.

---

**Multiple ISPs mitigate, somewhat, the zero-sum game that Internet access represents for AOL and the MSOs by allowing both sides to benefit from their respective core competencies.**

---

During 1Q02, Comcast and AT&T Broadband announced multiple ISP agreements and commercial launches with United Online and EarthLink, respectively. These deployments add to the existing agreements at AOL Time Warner (set in motion through the merger agreement) and Charter's partnership with Microsoft's MSN. All these agreements differ, with the exception that all have been structured with terms quite favorable to the cable operator.

Generally speaking, the terms of each agreement hinge on the capabilities of the ISP. For example, EarthLink owns regional data centers and other content and connectivity assets. In contrast, United Online owns very little network assets and outsources much of its own customer service.

We believe the Comcast agreement with United Online is in essence a turnkey wholesale agreement. United Online will market the service to the subset of its existing 1.5 million dial-up subscribers that reside within Comcast's footprint. If these subscribers upgrade to a United broadband service via Comcast's cable modem, Comcast performs the installation, bills the customer, operates the customer service, and manages the entire network flow of traffic. The subscriber retains its United email address, and the home page is a United home page. Under this arrangement, United's only acquisition cost is the marketing expense, which we expect to be insignificant on its existing dial-up base.

We expect that Comcast receives revenue of more than \$35 per month per subscriber on these United broadband subscribers, with United taking the difference between the gross revenue and its payment to Comcast. The latter also saves the typical \$150 in marketing costs it incurs on its new broadband subscribers.

## All the signed multiple ISP agreements differ, with the exception being that the terms are quite favorable for the cable operators.

The new agreement between AT&T Broadband and EarthLink, while limited to only two markets thus far, also presents the cable operator with compelling economics. Rather than a turnkey model, AT&T Broadband is really only carrying the traffic from the home to EarthLink's regional data centers. In addition, AT&T Broadband performs the installation work and some tier 2 customer service. However, all the tier 1 service and marketing costs are incurred by EarthLink. AT&T Broadband retains the billing relationship.

Again, AT&T Broadband benefits by eliminating its marketing costs. EarthLink, who is responsible for marketing under this agreement, will incur very little marketing expense. This is due to the fact that EarthLink is primarily marketing to the portion of its existing 4.2 million dial-up subscribers that are in AT&T Broadband's systems. By maintaining a billing relationship with the subscriber, AT&T Broadband does not pay the strategic costs associated with any of its own broadband subscribers that churn to EarthLink.

### Impact of Revised Forecast on AOL

By 2006, we expect that AOL will have 8.0-8.5 million broadband subscribers and 25 million dial-up subscribers. Of the 8.0-8.5 million broadband subscribers, we expect 5.5-6.0 million to be via cable modem access and the remainder from xDSL. This implies that AOL will serve 24% of the residential xDSL market by 2006 and 17% of the cable modem subscriber base.

AOL's lack of traction with the cable operators regarding carriage agreements continues to be a risk to our growth expectations for AOL. Even if agreements were announced today with other MSOs, major deployments would not begin until 2003. Our revised cable modem forecast indicates that cable will be a larger player in residential broadband than we had previously expected. As a result, AOL's existing agreements with several ILECs will be less valuable in moving AOL into broadband. We continue to believe that the U.S. MSOs will benefit from AOL agreements with both strong economics (higher ROIC) and increased unit growth.

Note that AOL may not require bundled broadband subscribers to realize the upside in value from broadband. The EBITDA contribution from an AOL dial-up and a bundled broadband subscriber, on just the access piece of the revenue stream, is essentially the same. The incremental value is in the higher advertising and e-commerce revenues that come from broadband. AOL may be able to realize some of this value in a "bring your own access" model, which does not require any bundled broadband agreements with other MSOs.

### Regulatory Clarity, for Now...

On March 14, 2002, the FCC issued a Declaratory Ruling (DR) and Notice of Proposed Rulemaking (NPR) establishing the classification of cable modem services as an "information service." This has the following ramifications on the cable and broadband industries:

- Cable modem service falls under the FCC's regulatory jurisdiction, not the local franchise authorities (LFAs).
- As an "information service," cable modem service falls under Title I of the Communications Act. This is consistent with the FCC's recent proposal to classify Internet service provided by the ILECs as an "information service" as well.
- Again, as an "information service," cable operators will not be subject to common carrier regulation, which would have been the case if the service had been classified a "telecommunications service" regulated under Title II.
- By stripping the service from the LFAs' regulatory jurisdiction, the FCC also noted that franchise fees should no longer be charged and collected by the cable operators and passed through to the LFAs. This has typically been approximately 5% of gross modem revenue.

In general, these aspects of the ruling represent an overwhelming victory for the US cable industry. The uncertainty created by various LFAs' views on broadband has been removed, and the FCC has stated that common carrier status will not exist for the cable operators even if MSOs are offering ISPs pure telecommunications services. This is a proactive statement, assuming that the relationship between operators and ISPs evolves into more-comprehensive service agreements.

In addition, the DR stated that LFAs should not be forcing cable operators to collect franchise fees on cable modem service. It did not specify when the MSOs should eliminate this charge from their bills, and the LFAs will likely appeal the decision. There is also no clarity on what will be done with the fees already collected. The majority of MSOs book franchise fees net, so there is no impact on reported revenue and EBITDA. For companies that report franchise fees gross, there will be a reduction in revenue, no reduction in EBITDA, and an increase in EBITDA margin.

Now that the FCC has defined cable modem service, it will begin to evaluate how, if at all, it should be regulated. In essence, the FCC brought cable modem service into its own regulatory umbrella, but left the regulatory framework open for discussion and development.

#### **Risk of Regulatory Parity with the ILECs**

A potential concern for the cable operators is the specific point made by the FCC that it would explore the idea of creating a more consistent analytical framework and "regu-

latory parity" across multiple broadband platforms. The RBOCs, in particular, have been applying pressure in this area.

The RBOCs believe that either the cable operators should be required to unbundle their network elements for competitive service providers, or the RBOCs should no longer be required to do so. In late March, Commissioner Abernathy, in a separate statement, pointed out that the RBOCs and the cable operators are "competing in a converged broadband marketplace," and therefore should face a more-consistent regulatory framework regarding access requirements.

Given FCC Chairman Powell's positioning on broadband, we would expect that if the FCC moves toward regulatory parity, would ease regulatory requirements on the RBOCs rather than place regulatory requirements on the cable operators. It is likely that both the cable operators and the CLEC industry will together lobby to maintain the status quo on RBOC regulation.

## Exhibit 35

## US Cable Modem Forecast, Quarterly

(In Thousands)

	Actual Results, Not Adjusted for Pending Acquisitions							
	1Q01	2Q01	3Q01	4Q01	1Q02E	2Q02E	3Q02E	4Q02E
Adelphia	3,581	4,173	4,660	5,247	6,016	6,784	7,553	8,322
AT&T	15,466	14,047	14,482	14,937	15,469	16,002	16,534	17,066
Cablevision	2,303	2,558	2,762	2,975	3,238	3,501	3,765	4,028
Charter Communications	5,689	6,191	6,480	7,561	8,181	8,801	9,421	10,041
Comcast	7,913	7,956	9,624	10,400	10,676	10,953	11,229	11,506
Cox Communications	7,756	8,385	8,739	9,057	9,301	9,545	9,789	10,033
Insight Communications	1,568	1,607	1,673	1,709	1,806	1,903	2,000	2,097
AOL Time Warner	14,321	16,177	15,985	15,792	16,297	16,801	17,306	17,810
Other	4,000	4,500	5,000	7,500	7,500	7,500	7,500	7,500
US HSCDS Homes Passed	62,596	65,595	69,405	75,177	78,484	81,790	85,096	88,402
Adelphia	197	243	315	378	475	560	664	787
AT&T	1,280	1,346	1,387	1,512	1,681	1,863	2,065	2,292
Cablevision	304	368	423	507	572	637	703	769
Charter Communications	305	386	508	608	715	858	1,020	1,201
Comcast	542	676	793	948	1,042	1,185	1,354	1,526
Cox Communications	587	668	779	884	994	1,098	1,228	1,365
Insight Communications	63	73	85	88	97	113	142	171
AOL Time Warner	1,100	1,310	1,545	1,783	2,082	2,316	2,615	2,953
Other	400	430	450	675	685	715	750	785
US HSCDS Subscribers	4,779	5,500	6,285	7,381	8,343	9,345	10,541	11,848
Growth %	127.6%	116.1%	98.2%	84.5%	74.6%	69.9%	67.7%	60.5%
Adelphia	48	46	72	62	98	85	104	124
AT&T	132	66	41	125	169	182	202	228
Cablevision	65	64	55	84	65	65	66	66
Charter Communications	89	81	122	100	107	143	163	180
Comcast	142	134	117	155	94	143	169	172
Cox Communications	105	81	111	104	111	104	130	137
Insight Communications	33	10	12	3	9	16	29	29
AOL Time Warner	220	210	234	238	299	234	299	338
Other	-57	30	20	225	10	30	35	35
HSCDS Additions	779	721	785	1,097	962	1,002	1,196	1,308

(1) Figures are on an as reported basis. E = Morgan Stanley Research Estimates

## Exhibit 36

## US Cable Modem Forecast, Annual

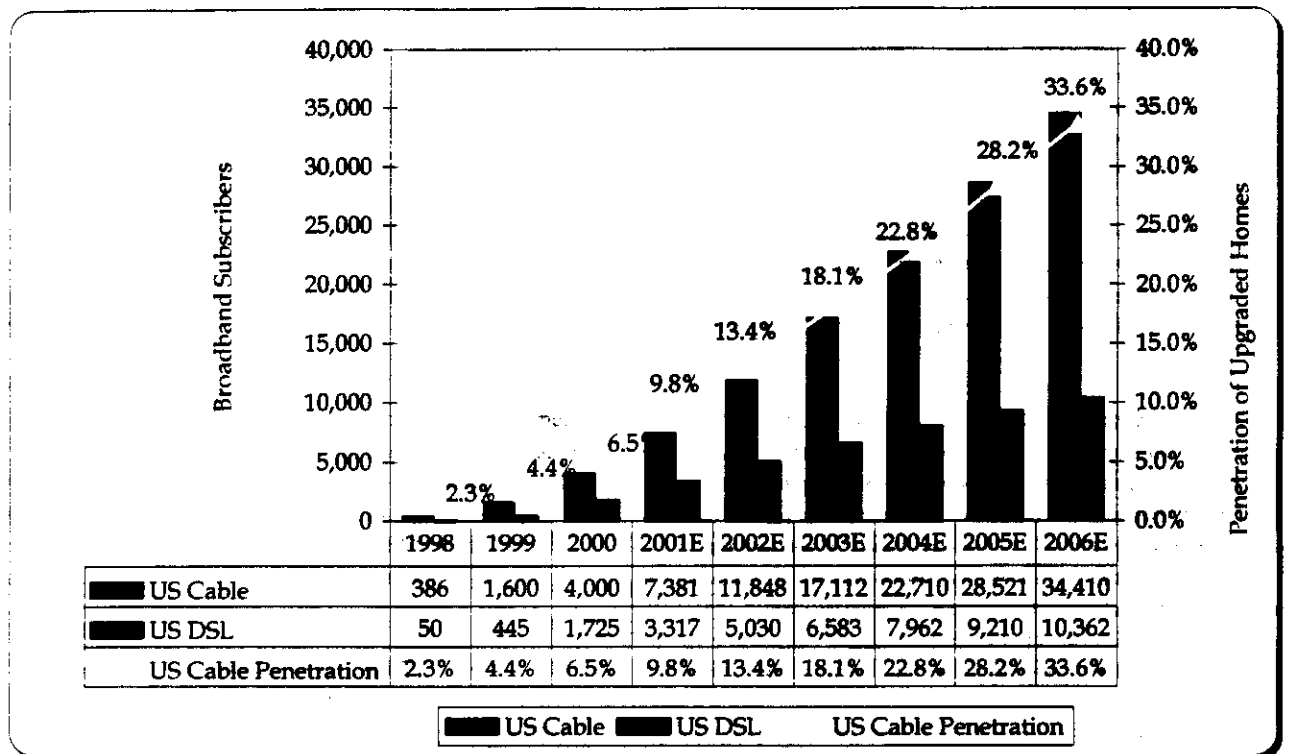
(In Thousands)

	Pro Forma		2002E	2003E	2004E	2005E	2006E
	2000	2001E					
Adelphia	3,716	5,247	8,322	8,447	8,573	8,702	8,832
AT&T	13,949	14,937	17,066	20,949	24,370	24,735	25,106
Cablevision	2,000	2,975	4,028	4,518	4,581	4,645	4,710
Charter Communications	5,551	7,561	10,041	10,938	11,856	12,070	12,287
Comcast	6,744	10,400	11,506	11,678	11,854	12,031	12,212
Cox Communications	7,123	9,057	10,033	10,183	10,336	10,491	10,648
Insight Communications	1,204	1,709	2,097	2,128	2,160	2,193	2,226
AOL Time Warner	13,830	15,792	17,810	18,077	18,349	18,624	18,903
Other	7,500	7,500	7,500	7,500	7,500	7,500	7,500
<b>US HSCDS Homes Passed</b>	<b>61,617</b>	<b>75,177</b>	<b>88,402</b>	<b>94,418</b>	<b>99,579</b>	<b>100,991</b>	<b>102,424</b>
Adelphia	149	378	787	1,219	1,715	2,243	2,756
AT&T	954	1,512	2,292	3,564	5,057	6,485	7,899
Cablevision	239	507	769	1,074	1,367	1,657	1,944
Charter Communications	229	608	1,201	1,794	2,457	3,139	3,897
Comcast	479	948	1,526	2,145	2,767	3,499	4,249
Cox Communications	482	884	1,365	1,945	2,550	3,188	3,802
Insight Communications	52	88	171	282	402	532	673
AOL Time Warner	880	1,783	2,953	4,194	5,390	6,663	7,963
Other	537	675	785	896	1,006	1,116	1,227
<b>US HSCDS Subscribers</b>	<b>4,000</b>	<b>7,381</b>	<b>11,848</b>	<b>17,112</b>	<b>22,710</b>	<b>28,521</b>	<b>34,410</b>
Growth %	150.0%	84.7%	60.5%	44.4%	32.7%	25.6%	20.6%
Adelphia	111	229	410	432	496	527	514
AT&T	592	558	780	1272	1494	1428	1414
Cablevision	239	268	263	304	293	290	287
Charter Communications	163	379	593	593	663	682	758
Comcast	320	469	578	619	622	733	749
Cox Communications	278	402	481	581	604	638	615
Insight Communications	44	36	83	111	120	130	142
AOL Time Warner	573	903	1170	1241	1196	1273	1301
Other	80	138	110	110	110	110	110
<b>HSCDS Additions</b>	<b>2,400</b>	<b>3,381</b>	<b>4,467</b>	<b>5,264</b>	<b>5,598</b>	<b>5,811</b>	<b>5,889</b>

E= Morgan Stanley Research Estimates

Exhibit 37

## Cable Modem vs. xDSL Forecast, Residential Only



E= Morgan Stanley Research Estimates



## Exhibit 38

## Internet Access Forecast, 1999-2006E

	1999	2000	2001	2002E	2003E	2004E	2005E	2006E
<b>Households</b>	105,418,879	106,894,744	108,391,270	109,908,748	111,447,470	113,007,735	114,589,843	116,194,101
<b>Growth</b>		1.4%	1.4%	1.4%	1.4%	1.4%	1.4%	1.4%
<b>Subscribers</b>								
Residential DSL	376,588	1,724,724	3,316,523	5,030,375	6,582,764	7,982,423	9,209,615	10,362,459
Business DSL	132,308	704,485	1,047,323	1,502,580	1,944,132	2,324,945	2,658,445	2,956,897
<b>Total DSL</b>	<b>508,876</b>	<b>2,429,189</b>	<b>4,363,846</b>	<b>6,532,955</b>	<b>8,526,896</b>	<b>10,287,368</b>	<b>11,868,060</b>	<b>13,319,356</b>
Cable Modem	1,600,000	4,000,000	7,381,357	11,848,287	17,111,790	22,710,076	28,520,849	34,409,977
<b>Total Broadband</b>	<b>2,108,876</b>	<b>6,429,189</b>	<b>11,745,203</b>	<b>18,381,242</b>	<b>25,638,687</b>	<b>32,997,443</b>	<b>40,388,909</b>	<b>47,729,333</b>
Dial-Up	33,574,728	40,916,688	46,536,752	50,307,095	49,441,808	47,849,063	45,736,339	43,561,672
<b>Internet Subscriptions</b>	<b>35,683,604</b>	<b>47,345,877</b>	<b>58,281,955</b>	<b>68,688,337</b>	<b>75,080,495</b>	<b>80,846,506</b>	<b>86,125,248</b>	<b>91,291,005</b>
Dial-Up Overlap	(1,054,438)	(3,214,595)	(5,872,602)	(7,531,611)	(9,345,972)	(11,185,862)	(13,033,528)	(14,868,634)
<b>Total Subscribers</b>	<b>34,629,166</b>	<b>44,131,283</b>	<b>52,409,354</b>	<b>61,156,726</b>	<b>65,734,523</b>	<b>69,660,644</b>	<b>73,091,720</b>	<b>76,422,371</b>
<b>Total Residential Subscribers</b>	<b>34,496,858</b>	<b>43,426,818</b>	<b>51,362,030</b>	<b>59,654,146</b>	<b>63,790,390</b>	<b>67,335,899</b>	<b>70,433,274</b>	<b>73,465,474</b>
<b>Subscription Market Share</b>								
Residential DSL	1%	4%	6%	7%	9%	10%	11%	11%
Business DSL	0%	1%	2%	2%	3%	3%	3%	3%
<b>Total DSL</b>	<b>1%</b>	<b>5%</b>	<b>7%</b>	<b>10%</b>	<b>11%</b>	<b>13%</b>	<b>14%</b>	<b>15%</b>
Cable Modem	4%	8%	13%	17%	23%	28%	33%	38%
<b>Total Broadband</b>	<b>6%</b>	<b>14%</b>	<b>20%</b>	<b>27%</b>	<b>34%</b>	<b>41%</b>	<b>47%</b>	<b>52%</b>
Dial-Up	94%	86%	80%	73%	66%	59%	53%	48%
<b>Subscription Net Additions</b>								
Residential DSL		1,348,156	1,591,799	1,713,852	1,552,389	1,379,658	1,247,192	1,152,844
Business DSL		572,157	342,858	455,257	441,553	380,813	333,500	298,452
<b>Total DSL</b>	<b>1,920,313</b>	<b>1,934,657</b>	<b>2,169,109</b>	<b>2,169,109</b>	<b>1,993,942</b>	<b>1,760,471</b>	<b>1,580,693</b>	<b>1,451,296</b>
Cable Modem		2,400,000	3,381,357	4,466,930	5,263,503	5,968,285	6,810,773	7,889,128
<b>Total Broadband</b>	<b>4,320,313</b>	<b>5,316,014</b>	<b>6,636,039</b>	<b>7,257,445</b>	<b>7,358,757</b>	<b>7,391,486</b>	<b>7,391,486</b>	<b>7,340,424</b>
Dial-Up	7,341,960	5,620,064	3,770,343	(865,287)	(1,592,746)	(2,112,724)	(2,112,724)	(2,174,666)
<b>Total</b>	<b>11,662,273</b>	<b>10,936,078</b>	<b>10,406,382</b>	<b>6,392,158</b>	<b>5,766,011</b>	<b>5,278,742</b>	<b>5,165,758</b>	<b>5,165,758</b>
<b>Annual Subscription Growth</b>								
Residential DSL		358%	92%	52%	31%	21%	16%	13%
Business DSL		432%	49%	43%	29%	20%	14%	11%
<b>Total DSL</b>	<b>377%</b>	<b>80%</b>	<b>50%</b>	<b>31%</b>	<b>21%</b>	<b>15%</b>	<b>12%</b>	<b>12%</b>
Cable Modem		150%	85%	61%	44%	33%	26%	21%
<b>Total Broadband</b>	<b>205%</b>	<b>83%</b>	<b>56%</b>	<b>39%</b>	<b>28%</b>	<b>22%</b>	<b>18%</b>	<b>18%</b>
Dial-Up		22%	14%	8%	-2%	-3%	-4%	-5%
<b>Total</b>	<b>33%</b>	<b>23%</b>	<b>18%</b>	<b>9%</b>	<b>8%</b>	<b>7%</b>	<b>6%</b>	<b>6%</b>
<b>5-Yr. Forward Subscription Growth</b>								
Residential DSL		38%	25%	17%	13%	11%	9%	7%
Business DSL		30%	22%	16%	12%	10%	9%	7%
<b>Total DSL</b>	<b>36%</b>	<b>24%</b>	<b>17%</b>	<b>13%</b>	<b>11%</b>	<b>9%</b>	<b>7%</b>	<b>7%</b>
Cable Modem		47%	35%	27%	21%	17%	13%	10%
<b>Total Broadband</b>	<b>43%</b>	<b>32%</b>	<b>24%</b>	<b>19%</b>	<b>15%</b>	<b>12%</b>	<b>9%</b>	<b>9%</b>
Dial-Up		2%	-2%	-4%	-4%	-4%	-3%	-2%
<b>Total</b>	<b>12%</b>	<b>9%</b>	<b>7%</b>	<b>6%</b>	<b>6%</b>	<b>5%</b>	<b>5%</b>	<b>5%</b>
<b>Household Penetration</b>								
Residential DSL		2%	3%	5%	6%	7%	8%	9%
Cable Modem		4%	7%	11%	15%	20%	25%	30%
<b>Total Residential Broadband</b>	<b>5%</b>	<b>10%</b>	<b>15%</b>	<b>21%</b>	<b>27%</b>	<b>33%</b>	<b>39%</b>	<b>39%</b>
Dial-Up (excluding overlap)		35%	38%	39%	36%	32%	29%	25%
<b>Total Penetration</b>	<b>41%</b>	<b>47%</b>	<b>54%</b>	<b>57%</b>	<b>60%</b>	<b>61%</b>	<b>63%</b>	<b>63%</b>

Source: Company reports and Morgan Stanley estimates.

E= Morgan Stanley Research Estimates

Broadband Cable Television – April 5, 2002

Please see the important disclosures at the end of this report.

## Residential Telephony Update

### A Look at Our Telephony Forecasts

Cox and AT&T currently have the largest deployments of circuit switched telephony. While other operators, such as Comcast and Charter, have acquired systems with residential telephony operations (from AT&T), they have not had Cox and AT&T's years of expertise.

In 2002, we expect the industry to begin generating positive EBITDA on the residential telephony business, which is almost entirely due to margin improvements on AT&T Broadband's business. As for commercial telephony, we expect a surge in EBITDA growth during 2002. Many of the MSOs with commercial telephony businesses have made the choice to slow the business and focus on improving EBITDA margins. A large part of the projected EBITDA growth in 2002 is due to much lower expected start-up losses on Comcast's commercial telephony business.

### Updates on Circuit Switched Deployments

Cox began marketing its residential telephony business in 1997, and we estimate that the company generated EBITDA losses through 2000. During 2000, the company made the decision to focus on driving penetration in its existing markets, rather than launch new markets. The residential telephony business is now generating positive EBITDA and enhancing the growth rate of the entire company. We estimate margins in 2001 averaged 20% and should reach 30% in 2002.

We estimate AT&T Broadband generated EBITDA losses of \$345 million on its residential telephony business in 2001. The company has made the decision not to launch new telephony markets and instead focus on driving penetration in existing markets. We believe that Cox's strategy regarding its residential telephony business is a good precedent for the revised AT&T strategy. We expect AT&T Broadband can begin to generate positive EBITDA on that business. In 2003, we estimate total telephony EBITDA of \$270 million, which would provide about 600 basis points of margin improvement for AT&T Broadband, or about one-third of the total expected margin improvement.

We believe that by focusing on its existing markets, AT&T can follow Cox's lead and eliminate the start-up costs related to launching new markets and therefore begin to generate positive EBITDA. For Cox, residential telephony not

Exhibit 39

### Cox Residential Telephony Summary

	1999	2000	2001	2002E
Avg. Telephony Subs	64,176	169,955	349,113	558,385
Telephony ARPU	\$57.98	\$52.03	\$50.06	\$47.81
Total Telephony Rev.	\$43.1	\$106.1	\$207.9	\$320.3
Direct Costs	29.8	64.6	100.2	148.9
Gross Margins	31.0%	39.1%	51.8%	53.5%
EBITDA	(\$14.8)	(\$17.1)	\$40.7	\$83.3
EBITDA Margin	NM	NM	19.6%	26.0%

Source: Morgan Stanley Research Estimates

Exhibit 40

### AT&T Broadband Residential Telephony Summary

	2001	2002E	2003E	2004E
Avg. Telephony Subs	772,000	1,331,752	2,024,651	2,825,596
Telephony ARPU	\$53.43	\$53.28	\$53.28	\$53.28
Total Telephony Rev.	\$495.0	\$844.7	\$1,294.5	\$1,806.6
Direct Costs	274.4	401.2	603.7	841.4
Gross Margins	44.6%	52.5%	53.4%	53.4%
EBITDA	(370.5)	48.2	323.6	612.4
EBITDA Margins	NM	5.7%	25.0%	33.9%

Source: Morgan Stanley Research Estimates

only enhances total revenue and EBITDA growth, but it is also an important product in the bundle. Cox has indicated that three-product customers have the lowest churn rates.

Cox's San Diego system reached over 100,000 residential telephony customers in 1Q02, covering about 535,000 cable homes. The San Diego system is about 75% upgraded for residential telephony services, with the remainder expected to be telephony ready by the end of 2002. The Regional Bell operator in that system is Pacific Bell. Cox offers its customers about a 10-20% discount per month on the primary phone line versus Pacific Bell. In addition, Cox does not charge for non-toll calls, while Pacific Bell customers pay a per-minute fee.

While Insight has also deployed a circuit-switched telephony product, the economics of the product are different from that of AT&T and Cox. Insight sells local bandwidth to AT&T under their telephony agreement. Insight does not bear marketing and G&A expenses and therefore will not experience start-up losses. However, the telephony product is offered on a co-branded basis. At the end of 2001, Insight had about 7,500 residential telephony customers. We do not expect the telephony product to have a significant impact on Insight's revenue and operating cash flow in 2002.

## Exhibit 41

**Residential Telephony Deployments, 1998-2006E**

(In Thousands)

Telephony Homes Passed	Pro Forma			2001E	2002E	2003E	2004E	2005E	2006E
	1998	1999	2000E						
Adelphia	0	0	0	0	0	502	2,241	5,169	5,246
AT&T Broadband (incl. MediaOne)	139	785	4,990	6,419	8,958	12,192	15,520	15,753	15,990
Cablevision	18	103	147	157	236	991	1,746	2,480	4,463
Charter	0	0	0	0	69	415	1,802	3,209	5,327
Comcast	0	0	0	0	144	511	2,150	5,191	7,637
Cox Communications	611	1,150	2,427	3,338	4,038	4,749	5,470	6,202	6,295
AOL Time Warner	0	0	0	0	0	1,011	3,226	6,996	11,633
Insight Communications	0	0	0	214	761	1,324	1,866	1,894	1,923
Total	768	2,038	7,563	10,128	14,206	21,694	34,021	46,895	58,514
Growth %			271.1%	33.9%	40.3%	52.7%	56.8%	37.8%	24.8%
<b>Residential Telephony Subscribers</b>									
Adelphia	0	0	0	0	0	15	116	387	749
AT&T Broadband (incl. MediaOne)	10	74	533	1,011	1,653	2,397	3,254	3,923	4,465
Cablevision	2	9	12	13	17	33	75	134	175
Charter	0	0	0	0	5	34	155	318	619
Comcast	0	0	0	0	11	49	205	572	1,046
Cox Communications	28	102	245	454	663	894	1,143	1,403	1,619
AOL Time Warner	0	0	0	0	0	76	319	874	1,764
Insight Communications	0	0	0	6	47	117	222	314	393
Total	40	185	790	1,484	2,396	3,616	5,488	7,924	10,831
<b>Penetration of Upgraded Homes</b>									
Adelphia	NM	NM	NM	NM	NM	3.0%	5.2%	7.5%	14.3%
AT&T Broadband (incl. MediaOne)	7.2%	9.5%	10.7%	15.8%	18.4%	19.7%	21.0%	24.9%	27.9%
Cablevision	11.4%	8.6%	8.2%	8.5%	7.4%	3.4%	4.3%	5.4%	3.9%
Charter	NM	NM	NM	NM	7.5%	8.2%	8.6%	9.9%	11.6%
Comcast	NM	NM	NM	NM	7.5%	9.6%	9.5%	11.0%	13.7%
Cox Communications	4.6%	8.9%	10.1%	13.6%	16.4%	18.8%	20.9%	22.6%	25.7%
AOL Time Warner	NM	NM	NM	NM	NM	7.5%	9.9%	12.5%	15.2%
Insight Communications	NM	NM	NM	2.8%	6.1%	8.8%	11.9%	16.6%	20.5%
Penetration of Upgraded Homes	5.2%	9.1%	10.4%	14.7%	16.9%	16.7%	16.1%	16.9%	18.5%
<b>Subscriber Additions</b>									
Adelphia		0	0	0	0	15	101	271	362
AT&T Broadband (incl. MediaOne)		64	459	478	642	744	858	669	542
Cablevision		7	3	1	4	16	41	60	41
Charter		0	0	0	5	29	121	163	302
Comcast		0	0	0	11	39	155	367	475
Cox Communications		74	143	209	210	231	249	259	216
AOL Time Warner		0	0	0	0	76	243	556	889
Insight Communications		0	0	6	41	70	105	92	80
Total		145	605	694	912	1,220	1,873	2,436	2,907

E= Morgan Stanley Research Estimates

Exhibit 42

**US Cable Telephony Revenue and EBITDA Forecast, 1998-2006E***Dollars in Millions*

	Pro Forma							
	1999	2000	2001	2002E	2003E	2004E	2005E	2006E
<b>Residential Telephony Revenue</b>								
Adelphia	\$0.0	\$0.0	\$0.0	\$0.0	\$8.5	\$63.7	\$225.8	\$472.6
AT&T Broadband	43.6	137.0	495.0	844.7	1,294.5	1,806.6	2,294.5	2,681.5
Cablevision	4.8	4.0	10.8	14.0	26.4	57.9	107.7	165.8
Charter Communications	0.0	0.0	0.0	1.7	13.0	63.0	161.5	332.1
Comcast	0.0	0.0	0.0	3.9	21.0	88.3	270.0	560.5
Cox Communications	43.1	106.1	207.9	320.3	433.7	549.4	683.3	807.3
Insight Communications	0.0	0.0	0.7	6.8	21.2	42.9	66.2	88.2
AOL Time Warner	0.0	0.0	0.0	0.0	34.1	172.6	512.3	1,122.5
US CATV Industry Revenue	91.6	247.1	714.4	1,191.3	1,852.3	2,844.3	4,321.3	6,230.6
Growth Rate	NM	170%	189%	67%	55%	54%	52%	44%
<b>Residential Telephony EBITDA</b>								
Adelphia	0.0	0.0	0.0	0.0	(16.5)	(32.1)	(29.3)	65.1
AT&T	(302.0)	(522.1)	(370.5)	48.2	323.6	612.4	901.2	1,092.0
Cablevision	(8.3)	(13.7)	(7.3)	(6.7)	(8.0)	(3.2)	12.0	37.7
Charter Communications	0.0	0.0	0.0	(3.7)	(15.2)	(27.4)	0.3	36.1
Comcast	0.0	0.0	0.0	(11.9)	(22.0)	(21.8)	9.2	116.4
Cox Communications	(14.8)	(17.1)	40.7	83.3	130.9	183.1	243.9	310.1
Insight Communications	0.0	0.0	0.1	6.7	17.8	30.8	42.6	57.6
AOL Time Warner	0.0	0.0	0.0	0.0	(25.5)	(5.8)	51.8	217.5
US CATV Industry Revenue	(325.2)	(552.9)	(337.1)	116.1	385.0	735.9	1,231.7	1,932.4
Growth Rate	NM	NM	NM	NM	NM	91%	67%	57%
<b>Commercial Telephony Revenue</b>								
Adelphia	\$0.0	\$10.0	\$25.0	\$30.7	\$32.3	\$33.9	\$35.6	\$37.4
AT&T Broadband	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cablevision Lightpath	72.7	95.6	131.2	142.9	168.0	197.2	217.7	242.7
Charter Communications	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Comcast Business Communications	32.7	39.2	38.6	42.0	59.2	80.3	102.1	127.0
Cox Business Services	53.7	97.8	144.3	185.3	231.0	279.2	317.3	354.6
Insight Communications	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time Warner Telecom (1)	268.8	460.0	692.1	735.4	897.4	1,135.2	1,348.6	1,554.2
US CATV Industry Revenue	427.9	702.7	1,031.1	1,136.3	1,388.0	1,725.7	2,021.3	2,315.8
Growth Rate	117%	64%	47%	10%	22%	24%	17%	15%
<b>Commercial Telephony EBITDA</b>								
Adelphia	(20.0)	(10.0)	0.0	12.6	13.2	13.8	14.5	15.3
AT&T Broadband	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cablevision Lightpath	34.0	31.1	32.4	49.7	60.6	74.0	83.3	96.6
Charter Communications	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Comcast Business Communications	(2.0)	(70.1)	(143.8)	(46.3)	(38.3)	(26.5)	(9.3)	2.0
Cox Business Services	19.9	38.4	45.5	66.6	83.3	102.0	118.5	135.2
Insight Communications	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time Warner Telecom (1)	37.8	104.3	142.4	175.0	251.5	366.6	482.0	596.7
US CATV Industry Revenue	69.8	93.7	76.5	257.6	370.4	529.9	689.1	845.7
Growth Rate	-462%	34%	-18%	237%	44%	43%	30%	23%

E = Morgan Stanley Research Estimates

Note: Not consolidated into AOL Time Warner

Broadband Cable Television – April 5, 2002

Please see the important disclosures at the end of this report.

## A Closer Look at Basic Programming Costs

### Summary and Investment Conclusion

Over the next several years, we expect cable operators will generate average revenue and EBITDA growth of 12-14% in the cable business (analog, digital video, and cable modem services). However, we expect analog video revenue (basic rates, advertising, and other) to only grow 5-7%, while analog gross profit (analog revenue minus analog programming costs) should grow 3.5-5.5% per year. The majority of the growth in the cable business should come from new services such as digital video and cable modem.

The 5-7% analog video growth can be broken down as follows: 0.5-1.0% basic subscriber growth, 3-4% growth from basic and premium rate increases, 1% growth from advertising revenue, and 0.5% growth from other revenue. We expect basic programming costs per subscriber to grow an average of 7-9% over the next several years.

We have analyzed the affiliate fees of the various cable networks and cross-checked them with our estimates for average analog programming costs for the cable operators. We believe four conclusions can be drawn from this analysis:

- We expect basic programming rate increases to decline gradually over the next several years, to about 6% per subscriber per year by 2006. However, we expect analog gross margins to decline from about 71% to 68% by 2006, as basic rate increases will not exactly match increases on programming costs.
- Upselling basic customers to digital video and other services will be an important offset for these cost increases.
- The top-20 cable networks represent more than 75% of total affiliate fees of the cable networks included in most basic programming tiers (roughly 45 channels — broadcasters and local channels do not receive affiliate fees).
- Our programming cost estimates are based on our forecasts of affiliate fee growth at the entertainment companies. With the exception of sports programming, these cost increases are commensurate with basic rate increases at about 5-6% per year. Including sports programming (which has been the driving force behind the highest rate increases over the past few

years), affiliate fee growth averages 6-8% in our model over the next several years.

- Channel additions have led to increases in programming costs for the MSOs, which have exceeded growth in affiliate fees over the past few years. We estimate that total annual basic programming costs per subscriber grew 10-12% in 1998-2001. About 400-500 basis points of the increase came from channel additions.
- Upside to current revenue growth for programmers will likely occur through digital variants of analog programming (i.e., Discovery's digital programming). We estimate that digital tier programming was 32-35% of digital revenue in 2000-2001 and should not exceed 36% by 2006. The combined cost of analog and digital programming was 29% of revenue in 2001 and should be 32-33% in 2006, according to our analysis.

A cable operator offers its customers different tiers of cable television service including standard and digital tiered services. The standard cable service offers analog programming with an average of 60-70 channels, which include broadcast and cable networks. The MSOs have now also begun to offer a variety of digital packages at different price points, which incorporate the standard analog service, plus additional digital channels.

For non-sports networks, a contract between a programmer and a cable operator is typically for 5-8 years and sets the affiliate fees per subscriber owed to the programmer as well as annual rate increases on these affiliate fees. The annual rate increases average 5-6% excluding sports programming. Revenue for the programmers is a cost to the cable operators for carriage of the networks. Contracts for sports programming are also an important component of annual rate increases of affiliate fees; many contracts include a surcharge for sports rights. Direct and indirect sports surcharges are the reasons behind the 20% increases in sports channel affiliate fees over the past few years. Including sports programming surcharges, industry rate increases average 6-8%.

Analog programming costs account for a cable operator's largest expense at an average of 27-30% of total analog revenue. Of the analog programming costs, the basic programming cost is the largest component, averaging about

20-22% of analog revenue. Basic programming costs per subscriber have been increasing 10-12% per year, with the largest increases from the sports programmers. By 2004-2006, however, we expect these costs to decrease to about 6%.

#### **Affiliate Fees at the Top Networks**

Exhibit 43 shows the affiliate fees per subscriber for the top basic networks. Total affiliate fees per subscriber for basic programming are \$9-11 in 2000-2002E. The 45 networks shown in the exhibit account for almost all of the basic network fees, with the top 20 channels accounting for more than 75%.

The top two sports channels, ESPN and Fox Sports, account for almost 25% of the affiliate fees. The sports networks have implemented among the highest rate increases of the networks, due to the previously discussed surcharges for particular sports rights. We estimate the five-year average growth rate from 2001-2006 for ESPN and Fox Sports will be about 9%, versus an average of 5-6% for the other networks.

#### **Basic Programming Costs for the MSOs**

Exhibit 47 shows the basic programming costs broken out by cable operator. Basic costs per subscriber should average \$10-11 in 2002. For larger operators, such as AOL Time Warner with about 12 million subscribers, costs per subscriber are closer to \$10, while for the smaller operators, monthly costs per subscriber should be closer to \$11.

Programming cost increases per basic subscriber for the MSOs have averaged 10-12% per year, with the largest increases from the sports programmers. MSOs have passed on part of this cost to its customers through basic rate increases, but these increases only average about 4-6%. Upselling existing customers with digital video packages and other services have helped offset these cost increases.

#### **The Economics of Digital**

Digital video allows MSOs to offer additional services at different price points. For programmers, digital service represents an opportunity to offer more networks. Programmers such as Discovery and ESPN have created spin-off channels (Discovery Kids, Discovery Science, ESPN-News, etc.) offered on the digital tier. However, unlike basic networks that have been established for many years, these new digital channels were created less than ten years ago and most are not fully distributed. As such, these new networks typically will pay the cable operator "launch fees" for carriage or will have step-up programming expenses in which affiliate fees will initially be low and then increase over time.

At this point, we believe affiliate fees for digital channels are still fairly small. Over the next couple of years, however, fees will begin to become more meaningful, particularly as digital penetration continues to increase. Digital programming affiliate fees will not be a large source of revenue for programmers, in our view, but there is little to no cost associated with these channels. Multiplexed digital channels, like Discovery, repackage much of the programming to target specific audiences, such as children.

We estimate that analog programming costs per subscriber will increase 7-9% per year in 2002-2006. Digital costs should increase from 2001-2006 at a 29% CAGR, but the large growth is really a function of the small starting base. Combined analog, premium, and digital programming costs are expected to grow from 2001 to 2006 at an 10-11% CAGR.

Basic analog revenues are forecast to increase 5-7% per year. However, when digital and premium services are added, the total increases is 8-9% per year. We expect the overall gross margin on total video services to contract from 68% in 2001 to 64% in 2006. The total margin is critical as the major programming suppliers offer all three forms of content — analog, digital, and premium. The negotiations for each type of programming are directly influenced by the price structure paid for the other forms.

Exhibit 43  
Cable TV Networks Domestic Affiliate Revenue per Subscriber

	1999	2000	2001	2002E	2003E	2004E	2005E	2006E
1 ESPN	1.01	1.19	1.40	1.61	1.74	1.88	2.03	2.20
2 Fox Sports	0.56	0.79	0.90	0.97	1.06	1.15	1.26	1.37
3 Disney Channel	0.70	0.71	0.75	0.81	0.85	0.89	0.93	0.98
4 TNT	0.62	0.65	0.67	0.69	0.72	0.76	0.80	0.84
5 USA Network	0.36	0.37	0.39	0.41	0.41	0.43	0.44	0.46
6 CNN	0.37	0.38	0.38	0.38	0.40	0.42	0.44	0.46
7 Nickelodeon	0.26	0.27	0.29	0.30	0.32	0.34	0.36	0.38
8 FX	0.29	0.29	0.29	0.29	0.31	0.32	0.34	0.36
9 TCM	0.20	0.21	0.23	0.27	0.28	0.30	0.33	0.35
10 TBS	0.21	0.22	0.24	0.25	0.27	0.28	0.30	0.31
11 ESPN2	0.19	0.22	0.23	0.24	0.25	0.26	0.28	0.29
12 Discovery Channel	0.18	0.20	0.22	0.24	0.25	0.28	0.29	0.31
13 CNBC	0.16	0.19	0.21	0.23	0.26	0.28	0.31	0.34
14 AMC	0.22	0.23	0.23	0.23	0.25	0.26	0.28	0.29
15 Fox News	0.21	0.22	0.22	0.22	0.23	0.24	0.25	0.27
16 MTV	0.18	0.19	0.20	0.21	0.23	0.24	0.26	0.27
17 A&E	0.16	0.18	0.19	0.20	0.21	0.23	0.24	0.26
18 E!	0.16	0.17	0.18	0.19	0.20	0.21	0.22	0.24
19 Lifetime	0.13	0.14	0.15	0.16	0.17	0.19	0.20	0.21
20 TNN	0.15	0.15	0.16	0.16	0.17	0.18	0.19	0.20
21 ABC Family	0.16	0.16	0.16	0.16	0.16	0.17	0.18	0.18
22 WE	0.18	0.15	0.15	0.16	0.16	0.17	0.18	0.19
23 TLC	0.12	0.13	0.14	0.15	0.16	0.18	0.19	0.21
24 Sci-Fi	0.12	0.13	0.13	0.15	0.16	0.17	0.19	0.21
25 MSNBC	0.11	0.12	0.13	0.14	0.15	0.17	0.19	0.21
26 Outdoor Life	0.12	0.13	0.13	0.14	0.15	0.15	0.16	0.17
27 BET	0.10	0.11	0.12	0.13	0.14	0.15	0.16	0.17
28 Cartoon	0.09	0.10	0.12	0.13	0.14	0.15	0.17	0.19
29 Bravo	0.11	0.13	0.12	0.13	0.13	0.14	0.15	0.15
30 History Channel	0.09	0.10	0.11	0.11	0.12	0.13	0.14	0.14
31 ESPN Classic	0.10	0.10	0.11	0.11	0.12	0.12	0.13	0.14
32 Court TV	0.11	0.10	0.11	0.11	0.11	0.12	0.12	0.12
33 Comedy Central	0.08	0.09	0.10	0.10	0.11	0.11	0.12	0.13
34 VH1	0.08	0.08	0.09	0.10	0.10	0.11	0.12	0.12
35 Speedvision	0.08	0.08	0.09	0.09	0.10	0.10	0.11	0.11
36 The Weather Channel	0.08	0.08	0.09	0.09	0.10	0.10	0.11	0.12
37 Animal Planet	0.07	0.08	0.08	0.09	0.09	0.10	0.10	0.11
38 Home and Garden	0.05	0.06	0.06	0.07	0.07	0.08	0.08	0.09
39 TV Land	0.05	0.05	0.06	0.06	0.07	0.07	0.07	0.08
40 Travel Channel	0.04	0.05	0.05	0.06	0.06	0.06	0.07	0.07
41 Food Network	0.04	0.05	0.05	0.05	0.06	0.06	0.06	0.07
42 CMT	0.03	0.04	0.04	0.04	0.05	0.05	0.05	0.05
43 TV Guide	0.05	0.05	0.04	0.04	0.03	0.03	0.03	0.03
44 ESPN News	0.02	0.02	0.03	0.03	0.04	0.04	0.04	0.04
45 M2	0.02	0.02	0.03	0.03	0.03	0.04	0.05	0.05
<b>Total</b>	<b>8.41</b>	<b>9.17</b>	<b>9.86</b>	<b>10.57</b>	<b>11.21</b>	<b>11.94</b>	<b>12.70</b>	<b>13.52</b>
Growth %		9.0%	7.5%	7.2%	6.1%	6.5%	6.4%	6.4%
Growth % excl. sports		5.0%	5.2%	5.6%	5.4%	5.8%	5.7%	5.7%

E= Morgan Stanley Research Estimates

Broadband Cable Television – April 5, 2002

Please see the important disclosures at the end of this report.

Exhibit 44

## Average Subscribers for Cable TV Networks

	1999	2000	2001	2002E	2003E	2004E	2005E	2006E
1 ESPN	75.7	78.6	82.3	84.8	85.5	87.0	88.3	89.5
2 Fox Sports	27.9	31.5	33.1	36.3	39.4	42.5	45.5	48.4
3 Disney Channel	35.4	46.4	57.4	63.7	67.0	67.4	67.8	68.2
4 TNT	76.7	79.1	80.7	82.1	83.4	84.6	85.9	87.2
5 USA Network	76.2	79.1	82.6	85.4	86.7	87.6	88.4	89.3
6 CNN	76.9	79.7	81.7	83.1	84.3	85.6	86.9	88.2
7 Nickelodeon	75.4	78.2	81.1	83.5	85.6	87.2	88.5	89.7
8 FX	40.0	48.0	56.5	72.0	80.0	83.6	86.9	89.8
9 TCM	29.6	35.8	41.2	45.6	49.6	53.5	57.4	61.3
10 TBS	78.6	80.8	83.0	85.6	87.6	88.9	90.2	91.1
11 ESPN2	65.9	72.5	81.0	83.4	85.1	86.8	88.1	89.4
12 Discovery Channel	76.7	79.1	83.0	84.9	87.0	88.6	89.9	91.1
13 CNBC	69.6	72.9	76.2	79.1	81.3	83.3	85.3	87.2
14 AMC	61.7	64.4	68.4	71.3	73.1	75.7	78.2	80.6
15 Fox News	33.2	43.5	59.0	74.0	81.7	85.1	88.3	91.4
16 MTV	72.3	75.5	80.4	83.0	83.5	85.0	86.3	87.5
17 A&E	75.0	77.5	80.9	83.4	84.8	86.3	87.6	88.7
18 E!	57.0	65.3	73.3	77.2	79.4	81.2	82.9	84.4
19 Lifetime	73.9	77.4	81.0	83.5	84.9	86.4	87.7	88.9
20 TNN	73.0	75.9	81.8	85.6	87.7	89.3	90.7	91.9
21 ABC Family	74.3	76.6	79.4	81.5	82.8	84.3	85.6	86.7
22 WE	19.2	22.7	37.8	43.5	45.6	47.9	50.3	52.8
23 TLC	70.0	74.3	78.7	81.1	83.3	85.3	87.1	88.7
24 Sci-Fi	56.2	62.7	68.6	74.1	79.1	84.0	85.7	87.0
25 MSNBC	49.6	55.6	59.9	63.3	65.7	67.3	69.5	72.3
26 Outdoor Life	20.5	25.5	32.5	37.8	41.4	46.9	52.6	56.0
27 BET	57.5	60.6	66.5	72.8	76.8	80.0	82.1	83.2
28 Cartoon	54.6	60.0	65.0	69.2	72.8	75.8	78.4	80.6
29 Bravo	34.9	46.9	45.2	54.8	58.6	60.8	62.9	64.9
30 History Channel	57.1	62.1	70.8	78.1	80.0	81.5	82.7	83.7
31 ESPN Classic	20.0	28.0	42.0	46.2	53.1	61.1	67.2	73.9
32 Court TV	36.6	42.7	50.6	58.5	64.7	69.3	72.6	74.9
33 Comedy Central	58.6	65.4	71.5	75.1	76.9	78.4	79.5	80.6
34 VH1	66.0	71.7	76.6	80.5	83.1	85.0	86.5	87.4
35 Speedvision	22.5	28.5	34.0	36.7	39.7	42.8	44.5	46.3
36 The Weather Channel	73.4	75.8	78.3	80.3	82.3	84.3	86.4	88.6
37 Animal Planet	49.4	59.8	69.1	74.4	77.3	79.6	82.0	84.5
38 Home and Garden	53.7	63.0	71.0	73.1	75.3	77.6	79.9	82.3
39 TV Land	41.3	50.6	61.3	70.2	75.0	78.2	81.2	84.1
40 Travel Channel	28.4	42.2	55.0	61.9	63.8	65.7	67.7	69.7
41 Food Network	40.7	45.5	48.0	50.4	52.9	55.6	58.3	61.3
42 CMT	40.0	41.9	49.5	55.6	57.8	59.8	61.6	63.3
43 TV Guide	49.8	50.5	52.6	54.5	56.3	58.1	59.9	61.8
44 ESPN News	18.0	23.0	26.0	28.6	31.5	34.6	38.1	41.9
45 M2	11.4	16.5	28.6	37.3	40.0	42.5	44.9	47.3
Total	52.3	57.6	63.6	68.2	71.0	73.4	75.5	77.5
Growth %		10.1%	10.4%	7.1%	4.1%	3.4%	2.9%	2.6%

E= Morgan Stanley Research Estimates

Broadband Cable Television - April 5, 2002

Please see the important disclosures at the end of this report.



Exhibit 45

## Cable TV Networks Domestic Affiliate Revenue

	C1999	C2000	C2001E	C2002E	C2003E	C2004E	C2005E	C2006E
ABC Family	139	148	157	161	163	173	183	191
Growth %	8.3%	6.4%	6.0%	2.6%	1.6%	5.9%	5.6%	4.4%
A&E	145	167	183	203	218	236	253	272
Growth %	15.0%	15.0%	9.9%	10.5%	7.7%	8.0%	7.6%	7.4%
AMC	175	181	196	213	233	255	277	299
Growth %	12.7%	3.5%	8.8%	8.5%	9.2%	9.7%	8.3%	8.1%
Animal Planet	42	56	69	78	86	93	101	110
Growth %	51.3%	36.0%	21.9%	13.6%	9.7%	8.7%	8.7%	8.7%
BET	191	168	191	214	237	261	285	309
Growth %	26.6%	-11.8%	13.2%	12.0%	10.9%	10.0%	9.3%	8.6%
Bravo	62	67	76	91	100	109	118	128
Growth %	41.0%	9.7%	12.8%	19.1%	10.6%	8.8%	8.4%	8.2%
Cartoon	60	72	90	106	122	140	159	180
Growth %	22.6%	20.9%	24.6%	17.1%	15.7%	14.6%	13.8%	13.1%
CMT	15	18	25	29	32	34	37	40
Growth %	15.4%	20.5%	36.1%	17.8%	9.2%	8.6%	8.2%	8.0%
CNBC	137	165	195	222	252	284	319	359
Growth %	15.1%	20.5%	18.1%	14.2%	13.1%	12.7%	12.5%	12.4%
CNN	337	360	369	375	400	426	454	484
Growth %	11.5%	6.7%	2.5%	1.7%	6.6%	6.6%	6.6%	6.6%
Comedy Central	57	69	82	92	100	108	116	124
Growth %	25.0%	20.5%	18.1%	12.3%	8.6%	8.0%	7.6%	7.4%
Court TV	48	52	65	78	88	97	105	112
Growth %	40.0%	7.9%	24.8%	19.3%	13.9%	10.3%	7.9%	6.3%
Discovery Channel	169	192	217	240	266	292	318	344
Growth %	6.8%	13.6%	13.3%	10.5%	10.6%	10.0%	8.6%	8.4%
Disney Channel	541	629	747	880	990	1,067	1,143	1,222
Growth %	12.7%	16.3%	18.7%	17.9%	12.4%	7.8%	7.2%	6.9%
E!	109	132	155	180	194	208	223	239
Growth %	128.0%	20.3%	17.9%	15.8%	7.9%	7.5%	7.2%	6.9%
ESPN	920	1,127	1,386	1,659	1,824	2,007	2,200	2,408
Growth %	23.8%	22.5%	23.0%	19.7%	10.0%	10.0%	9.6%	9.4%
ESPN2	144	180	210	237	257	275	294	315
Growth %	19.9%	24.8%	16.5%	13.0%	8.1%	7.1%	7.1%	7.1%
ESPN Classic	21	29	45	56	64	77	91	105
Growth %	43.1%	41.2%	53.1%	26.0%	12.9%	20.8%	17.9%	15.5%
ESPN News	3	5	6	11	14	16	16	20
Growth %	271.4%	57.7%	79.3%	28.4%	26.0%	15.5%	15.5%	15.5%
Food Network	141	150	159	169	180	192	204	218
Growth %	7.0%	6.2%	5.9%	6.5%	6.5%	6.5%	6.5%	6.5%
Fox News	84	113	158	194	225	246	268	291
Growth %	40.6%	35.2%	39.7%	22.9%	16.0%	9.4%	9.0%	8.6%
Fox Sports	307	394	473	570	688	820	966	1,127
Growth %		28.7%	19.9%	20.5%	20.7%	19.2%	17.8%	16.6%
FX	138	167	198	252	294	323	353	383
Growth %	57.5%	21.7%	18.4%	27.4%	16.6%	9.8%	9.1%	8.5%
History Channel	67	77	91	107	116	126	135	145
Growth %	22.0%	14.3%	18.4%	18.0%	8.6%	8.0%	7.6%	7.4%
Home and Garden	35	48	55	58	62	66	70	75
Growth %	39.9%	39.2%	12.8%	6.5%	6.5%	6.5%	6.5%	6.5%

E= Morgan Stanley Research Estimates

Broadband Cable Television – April 5, 2002

Please see the important disclosures at the end of this report.

Exhibit 46

## Cable TV Networks Domestic Affiliate Revenue (continued)

	C1999	C2000	C2001E	C2002E	C2003E	C2004E	C2005E	C2006E
Lifetime	112	129	148	165	178	192	207	222
Growth %	14.7%	15.2%	15.2%	11.3%	7.8%	8.0%	7.6%	7.4%
MTV	156	173	195	213	227	246	264	284
Growth %	10.3%	10.6%	12.9%	9.5%	6.6%	8.0%	7.6%	7.4%
M2	3	5	9	14	17	21	25	30
Growth %		66.7%	99.6%	50.2%	23.2%	22.3%	21.6%	19.6%
MSNBC	64	77	92	107	122	137	156	179
Growth %	33.9%	21.1%	18.5%	16.3%	14.2%	12.7%	13.6%	14.5%
Nickelodeon	231	254	280	305	332	358	385	414
Growth %	10.0%	10.0%	9.9%	9.2%	8.0%	8.0%	7.6%	7.4%
Outdoor Life	30	39	52	64	73	87	103	115
Growth %	99.7%	30.0%	33.8%	22.1%	14.9%	19.2%	17.7%	11.7%
Sci-Fi	81	97	106	130	148	175	204	232
Growth %	24.5%	19.8%	9.5%	22.0%	14.2%	18.5%	16.0%	13.9%
Speedvision	32	44	60	60	63	66	69	73
Growth %	113.3%	36.9%	37.0%	0.0%	5.0%	5.0%	5.0%	5.0%
TBS	198	214	242	262	281	301	324	348
Growth %	10.1%	8.1%	12.9%	8.3%	7.4%	6.9%	7.7%	7.6%
TCM	70	90	114	146	169	196	225	256
Growth %	36.8%	29.5%	26.4%	27.5%	16.3%	15.5%	14.8%	14.2%
TLC	100	117	133	148	165	182	201	219
Growth %	53.8%	16.5%	14.4%	11.2%	11.0%	10.5%	10.2%	9.0%
TNN	135	140	154	169	182	195	207	221
Growth %	7.7%	3.9%	10.0%	9.9%	7.6%	7.0%	6.6%	6.4%
TNT	569	616	647	678	722	770	821	875
Growth %	14.7%	8.3%	5.1%	4.8%	6.6%	6.6%	6.6%	6.6%
Travel Channel	12	23	34	41	45	50	55	61
Growth %	116.6%	85.8%	49.8%	20.5%	10.2%	10.2%	10.2%	10.2%
TV Guide	33	29	27	25	24	23	23	22
Growth %	-5.2%	-10.7%	-6.4%	-8.7%	-5.0%	-2.0%	-2.0%	-2.0%
TV Land	25	33	43	53	60	66	72	79
Growth %		32.3%	30.7%	22.6%	13.3%	10.5%	10.0%	9.8%
USA Network	327	349	383	420	431	461	483	510
Growth %	2.8%	6.8%	9.6%	9.6%	2.8%	6.8%	4.8%	5.7%
VH1	63	72	83	94	103	112	120	129
Growth %	12.7%	13.7%	15.4%	13.5%	9.4%	8.4%	7.7%	7.4%
WE	28	38	51	77	88	97	106	116
Growth %	82.2%	37.9%	32.2%	52.2%	14.6%	9.7%	9.7%	9.7%
The Weather Channel	68	75	82	87	93	99	105	112
Growth %	11.3%	10.0%	9.5%	6.5%	6.5%	6.5%	6.5%	6.5%
Total	\$6,421	\$7,381	\$8,535	\$9,733	\$10,729	\$11,765	\$12,849	\$14,800
Growth %	25.4%	15.0%	15.6%	14.0%	10.2%	9.7%	9.2%	9.0%
Copyrights, other small networks, other fees	\$1,060	\$1,263	\$1,406	\$1,521	\$1,752	\$1,865	\$1,962	\$2,049
Total	\$7,481	\$8,645	\$9,940	\$11,254	\$12,481	\$13,629	\$14,811	\$16,849
		15.6%	15.0%	13.2%	10.9%	9.2%	8.7%	8.4%

E= Morgan Stanley Research Estimates

Broadband Cable Television – April 5, 2002

Please see the important disclosures at the end of this report.

## Exhibit 47

## Basic Programming Expenses by Cable Operator

	Pro Forma							
	1999	2000	2001	2002E	2003E	2004E	2005E	2006E
<b>Adelphia</b>								
Avg. Basic Subscribers	5,605,840	5,757,607	5,802,522	5,823,326	5,848,700	5,873,000	5,897,000	5,921,000
Basic Programming Cost / Sub.	\$7.56	\$8.29	\$9.34	\$10.52	\$11.41	\$12.27	\$13.13	\$14.05
% Growth		10%	13%	13%	9%	8%	7%	7%
Basic Programming Expense	\$508.6	\$572.9	\$650.2	\$735.0	\$801.0	\$864.6	\$928.9	\$998.0
<b>AOL Time Warner</b>								
Avg. Basic Subscribers	10,481,004	11,072,516	11,152,666	11,240,423	11,297,329	11,351,714	11,404,994	11,457,186
Basic Programming Cost / Sub.	\$7.98	\$8.70	\$9.30	\$10.14	\$11.00	\$11.71	\$12.47	\$13.29
% Growth		9%	7%	9%	9%	6%	6%	6%
Basic Programming Expense	\$1,003.7	\$1,155.7	\$1,244.6	\$1,367.3	\$1,491.1	\$1,595.6	\$1,707.3	\$1,826.6
<b>AT&amp;T</b>								
Avg. Basic Subscribers	13,610,797	13,689,000	13,631,000	13,593,900	13,661,870	13,730,179	13,798,890	13,867,824
Basic Programming Cost / Sub.	\$7.75	\$8.28	\$9.36	\$10.20	\$11.22	\$12.01	\$12.85	\$13.75
% Growth		7%	13%	9%	10%	7%	7%	7%
Basic Programming Expense	\$1,265.1	\$1,360.4	\$1,531.0	\$1,664.4	\$1,840.0	\$1,978.6	\$2,127.7	\$2,288.1
<b>Cablevision</b>								
Avg. Basic Subscribers	2,863,158	2,935,434	2,985,071	3,022,262	3,059,442	3,096,590	3,133,774	3,170,992
Basic Programming Cost / Sub.	\$7.90	\$8.90	\$9.85	\$10.62	\$11.30	\$12.03	\$12.81	\$13.55
% Growth		13%	11%	8%	8%	6%	6%	6%
Basic Programming Expense	\$271.6	\$313.5	\$353.0	\$385.1	\$414.9	\$446.7	\$481.2	\$514.6
<b>Charter Communications</b>								
Avg. Basic Subscribers	6,090,638	6,746,046	6,953,700	6,923,884	7,005,940	7,040,969	7,076,174	7,111,555
Basic Programming Cost / Sub.	\$7.73	\$8.52	\$9.53	\$10.61	\$11.30	\$11.98	\$12.70	\$13.46
% Growth		10%	12%	11%	7%	6%	6%	6%
Basic Programming Expense	\$564.8	\$689.4	\$795.3	\$881.3	\$950.0	\$1,012.0	\$1,078.1	\$1,148.5
<b>Comcast</b>								
Avg. Basic Subscribers	8,147,919	8,297,842	8,428,942	8,511,500	8,592,000	8,671,500	8,750,000	8,827,500
Basic Programming Cost / Sub.	\$8.25	\$8.91	\$9.67	\$10.45	\$11.28	\$11.96	\$12.68	\$13.44
% Growth		8%	9%	8%	8%	6%	6%	6%
Basic Programming Expense	\$886.6	\$987.2	\$978.3	\$1,066.9	\$1,163.2	\$1,244.4	\$1,331.0	\$1,423.3
<b>Cox Communications</b>								
Avg. Basic Subscribers	5,944,256	6,141,969	6,200,737	6,244,294	6,303,539	6,347,663	6,392,097	6,436,842
Basic Programming Cost / Sub.	\$8.25	\$8.58	\$9.54	\$10.47	\$11.10	\$11.77	\$12.47	\$13.22
% Growth		4%	11%	10%	6%	6%	6%	6%
Basic Programming Expense	\$588.5	\$632.7	\$709.7	\$784.8	\$839.8	\$896.4	\$956.8	\$1,021.3
<b>Insight Communications</b>								
Avg. Basic Subscribers	1,268,494	1,271,838	1,277,900	1,290,119	1,302,769	1,315,000	1,327,000	1,339,000
Basic Programming Cost / Sub.	\$6.74	\$8.58	\$9.90	\$10.99	\$11.65	\$12.35	\$13.09	\$13.87
% Growth		27%	15%	11%	6%	6%	6%	6%
Basic Programming Expense	\$102.6	\$131.0	\$151.8	\$170.1	\$182.1	\$194.8	\$208.4	\$222.9
<b>Total Basic Subscribers - Major MSOs</b>	<b>54,012,106</b>	<b>55,912,251</b>	<b>56,432,537</b>	<b>56,649,708</b>	<b>57,071,787</b>	<b>57,424,584</b>	<b>57,775,968</b>	<b>58,126,498</b>
Avg. Progr. Cost / Sub	\$7.89	\$8.56	\$9.47	\$10.38	\$11.22	\$11.95	\$12.72	\$13.54
% Growth		9%	11%	10%	8%	7%	6%	6%
Total Basic Progr. Expense (based on coverage)	\$5,111.5	\$5,742.1	\$6,413.1	\$7,054.1	\$7,682.0	\$8,233.3	\$8,810.4	\$9,445.4
<b>Other Subscribers (Small MSOs)</b>	<b>14,525,874</b>	<b>13,456,669</b>	<b>13,421,965</b>	<b>13,627,988</b>	<b>13,626,599</b>	<b>13,692,869</b>	<b>13,760,020</b>	<b>13,827,522</b>
Basic Programming Cost / Sub.	\$6.94	\$7.91	\$9.02	\$10.19	\$11.52	\$12.86	\$14.22	\$15.57
% Growth		14%	14%	13%	13%	12%	11%	9%
Other Expense (Small MSOs)	\$1,209.7	\$1,277.5	\$1,452.6	\$1,666.6	\$1,883.1	\$2,113.7	\$2,347.7	\$2,582.8
<b>Total US Basic Subscribers</b>	<b>68,537,980</b>	<b>69,368,920</b>	<b>69,854,502</b>	<b>70,277,696</b>	<b>70,698,386</b>	<b>71,117,453</b>	<b>71,535,989</b>	<b>71,954,020</b>
Avg. Progr. Cost / Sub	\$7.69	\$8.43	\$9.38	\$10.34	\$11.27	\$12.12	\$13.01	\$13.93
% Growth		10%	11%	10%	9%	8%	7%	7%
Basic Progr. Expense - Total US	\$6,321.1	\$7,020.4	\$7,866.5	\$8,721.6	\$9,565.1	\$10,346.9	\$11,167.2	\$12,028.2
<b>Total Programming Expenses for DBS</b>								
Total DBS Subscribers	11,489,000	14,760,000	17,532,000	19,971,158	21,672,964	22,915,406	23,908,763	24,802,075
Avg. Progr. Cost / Sub	\$8.41	\$9.17	\$9.86	\$10.57	\$11.21	\$11.94	\$12.70	\$13.52
Total Basic Progr. Expense for DBS	\$1,159.7	\$1,624.1	\$2,073.7	\$2,532.1	\$2,916.0	\$3,282.5	\$3,644.1	\$4,022.4
<b>Total Programming Expenses (Cable and DBS)</b>	<b>\$7,480.9</b>	<b>\$8,644.5</b>	<b>\$9,940.2</b>	<b>\$11,253.7</b>	<b>\$12,481.1</b>	<b>\$13,629.5</b>	<b>\$14,811.2</b>	<b>\$16,048.6</b>
% Growth		16%	15%	13%	11%	9%	9%	8%

E = Morgan Stanley Research Estimates

Broadband Cable Television - April 5, 2002

Please see the important disclosures at the end of this report.

**Exhibit 48**  
**Digital Programming Expenses by Cable Operator**

	Pro Forma							
	1999	2000	2001	2002E	2003E	2004E	2005E	2006E
<b>Adelphia</b>								
Avg. Digital Subscribers	137,780	569,106	1,391,654	2,337,321	3,080,922	3,773,506	4,290,114	4,629,274
Digital Programming Cost / Digital Sub.	\$1.99	\$1.86	\$2.20	\$2.59	\$3.14	\$3.72	\$4.33	\$4.97
Digital Programming Expense	\$3.3	\$12.7	\$36.7	\$72.8	\$116.1	\$168.4	\$222.8	\$276.1
<b>AOL Time Warner</b>								
Avg. Digital Subscribers	205,000	987,100	2,260,125	3,591,099	4,847,213	5,851,969	6,596,571	7,212,245
Digital Programming Cost / Digital Sub.	\$2.42	\$4.52	\$4.65	\$5.17	\$5.42	\$5.70	\$5.98	\$6.28
Digital Programming Expense	\$6.0	\$53.5	\$126.1	\$222.6	\$315.5	\$399.9	\$473.4	\$543.4
<b>AT&amp;T</b>								
Avg. Digital Subscribers	1,235,532	2,058,545	2,890,000	3,954,467	4,845,886	5,547,128	6,166,838	6,703,559
Digital Programming Cost / Digital Sub.	\$5.20	\$5.85	\$8.78	\$9.15	\$7.28	\$6.03	\$5.46	\$5.98
Digital Programming Expense	\$77.1	\$144.5	\$304.3	\$434.1	\$423.6	\$401.5	\$404.2	\$480.7
<b>Cablevision</b>								
Avg. Digital Subscribers	-	-	2,230	68,068	305,180	583,045	824,082	1,095,631
Digital Programming Cost / Digital Sub.	\$0.00	\$0.00	\$6.30	\$6.72	\$7.14	\$7.79	\$8.24	\$8.95
Digital Programming Expense	\$0.0	\$0.0	\$0.2	\$5.5	\$26.1	\$54.5	\$81.5	\$117.7
<b>Charter Communications</b>								
Avg. Digital Subscribers	84,550	466,488	1,661,150	2,403,000	3,043,980	3,514,153	3,923,834	4,337,974
Digital Programming Cost / Digital Sub.	\$5.04	\$1.28	\$2.72	\$2.72	\$3.12	\$3.55	\$4.01	\$4.52
Digital Programming Expense	\$5.1	\$7.2	\$54.2	\$78.6	\$114.0	\$149.7	\$189.0	\$235.1
<b>Comcast</b>								
Avg. Digital Subscribers	287,675	1,037,100	1,927,850	2,655,686	3,272,780	3,798,981	4,255,958	4,639,086
Digital Programming Cost / Digital Sub.	\$1.92	\$1.51	\$2.11	\$2.38	\$2.73	\$3.10	\$3.51	\$3.95
Digital Programming Expense	\$6.6	\$18.8	\$48.9	\$75.9	\$107.1	\$141.5	\$179.2	\$219.7
<b>Cox Communications</b>								
Avg. Digital Subscribers	239,934	560,961	1,093,444	1,684,236	2,271,844	2,772,258	3,218,361	3,612,561
Digital Programming Cost / Digital Sub.	\$1.49	\$1.67	\$1.81	\$3.01	\$3.38	\$3.82	\$4.30	\$4.82
Digital Programming Expense	\$4.3	\$11.3	\$23.7	\$60.8	\$92.1	\$127.2	\$166.3	\$209.1
<b>Insight Communications</b>								
Avg. Digital Subscribers	62,533	96,358	204,900	313,871	431,947	568,014	719,039	847,814
Digital Programming Cost / Digital Sub.	\$3.49	\$3.40	\$7.67	\$7.67	\$8.19	\$8.54	\$8.90	\$9.28
Digital Programming Expense	\$2.6	\$3.9	\$18.8	\$28.9	\$42.5	\$58.2	\$76.8	\$94.4
<b>Total Digital Subscribers - Major MSOs</b>								
	2,253,003	5,775,657	11,431,353	17,007,747	22,099,752	26,409,055	29,994,797	33,078,145
Avg. Progr. Cost / Sub	\$3.88	\$3.63	\$4.47	\$4.80	\$4.66	\$4.74	\$4.98	\$5.48
Total Digital Progr. Expense	\$105.0	\$251.9	\$613.0	\$979.1	\$1,237.1	\$1,500.8	\$1,793.1	\$2,176.2
<b>(based on coverage)</b>								
<b>Other Subscribers (Small MSOs)</b>								
Avg. Digital Subscribers	1,438,011	3,046,902	3,238,326	3,144,022	2,674,432	2,275,029	2,033,319	1,895,310
Digital Programming Cost / Sub.	\$4.08	\$3.82	\$4.69	\$5.04	\$4.90	\$4.97	\$5.23	\$5.76
Other Expense (Small MSOs)	\$70.4	\$139.5	\$182.3	\$190.0	\$157.2	\$135.8	\$127.6	\$130.9
<b>Total US Digital Subscribers</b>								
	3,691,014	8,822,559	14,669,678	20,151,768	24,774,184	28,684,084	32,028,116	34,973,455
Avg. Progr. Cost / Sub	\$3.96	\$3.70	\$4.52	\$4.83	\$4.69	\$4.75	\$5.00	\$5.50
Digital Progr. Expense - Total US	\$175.4	\$391.5	\$795.3	\$1,169.1	\$1,394.2	\$1,636.6	\$1,920.7	\$2,307.1

Source: Morgan Stanley Research Estimates

Exhibit 49

## Premium / Pay-per-view Programming Costs per Subscriber

	Pro Forma							
	1999	2000	2001	2002E	2003E	2004E	2005E	2006E
<b>Adelphia</b>								
Avg. Basic Subscribers	5,605,840	5,757,607	5,802,522	5,823,326	5,848,700	5,873,000	5,897,000	5,921,000
Avg. Premium Subscribers	2,570,754	2,687,801	2,776,368	2,883,285	3,023,032	3,163,563	3,273,877	3,339,119
Premium Programming Cost / Basic Sub.	\$1.66	\$1.78	\$1.66	\$1.73	\$1.81	\$1.89	\$1.94	\$1.97
Premium Programming Expense	\$111.7	\$122.7	\$115.2	\$121.1	\$127.0	\$132.9	\$137.5	\$140.2
PPV Programming Cost / Basic Sub.	\$0.25	\$0.26	\$0.28	\$0.36	\$0.57	\$0.96	\$1.17	\$1.23
PPV Programming Expense	\$16.5	\$18.0	\$19.4	\$25.5	\$39.9	\$67.6	\$82.7	\$87.4
<b>AOL Time Warner</b>								
Avg. Basic Subscribers	10,481,004	11,072,516	11,152,666	11,240,423	11,297,329	11,351,714	11,404,994	11,457,186
Avg. Premium Subscribers	6,396,259	6,803,899	6,805,098	6,871,663	6,877,738	6,854,232	6,791,504	6,710,260
Premium Programming Cost / Sub.	\$2.21	\$1.84	\$1.68	\$1.83	\$1.83	\$1.81	\$1.79	\$1.84
Premium Programming Expense	\$278.2	\$244.9	\$224.6	\$247.4	\$247.6	\$246.8	\$244.5	\$253.6
PPV Programming Cost / Sub.	\$0.59	\$0.60	\$0.85	\$0.88	\$1.29	\$1.74	\$2.18	\$2.63
PPV Programming Expense	\$74.1	\$79.4	\$114.2	\$118.5	\$175.5	\$236.7	\$298.1	\$362.0
<b>AT&amp;T</b>								
Avg. Basic Subscribers	13,610,797	13,689,000	13,631,000	13,593,900	13,661,870	13,730,179	13,798,830	13,867,824
Avg. Premium Subscribers	12,044,713	12,849,591	11,684,269	11,391,414	11,307,271	11,128,079	10,941,164	10,746,502
Premium Programming Cost / Sub.	\$2.86	\$2.84	\$2.83	\$2.77	\$2.83	\$2.87	\$2.90	\$2.93
Premium Programming Expense	\$466.6	\$466.4	\$462.7	\$451.1	\$463.4	\$472.1	\$480.4	\$488.3
PPV Programming Cost / Sub.	\$0.58	\$0.64	\$0.74	\$0.85	\$0.99	\$1.17	\$1.42	\$1.67
PPV Programming Expense	\$94.5	\$105.2	\$121.8	\$138.7	\$161.9	\$192.5	\$234.7	\$278.2
<b>Cablevision</b>								
Avg. Basic Subscribers	2,863,158	2,935,434	2,985,071	3,022,262	3,059,641	3,094,558	3,129,874	3,165,592
Avg. Premium Subscribers	6,083,951	5,257,833	6,961,498	7,102,956	7,146,236	7,182,372	7,209,772	7,239,497
Premium Programming Cost / Basic Sub.	\$5.83	\$6.05	\$5.73	\$5.78	\$5.86	\$5.82	\$5.78	\$5.74
Premium Programming Expense	\$200.3	\$213.2	\$205.4	\$209.6	\$215.1	\$216.2	\$217.0	\$217.9
PPV Programming Cost / Sub.	\$1.05	\$0.82	\$0.76	\$0.62	\$0.88	\$1.25	\$1.66	\$2.20
PPV Programming Expense	\$36.1	\$29.0	\$27.4	\$22.4	\$32.2	\$46.3	\$62.5	\$83.5
<b>Charter Communications</b>								
Avg. Basic Subscribers	6,090,638	6,746,046	6,953,700	6,923,884	7,005,940	7,040,969	7,076,174	7,111,555
Avg. Premium Subscribers	3,002,550	4,105,715	5,691,262	6,055,642	6,074,080	6,074,336	6,075,258	6,078,869
Premium Programming Cost / Sub.	\$1.79	\$1.48	\$1.38	\$1.50	\$1.52	\$1.54	\$1.57	\$1.59
Premium Programming Expense	\$131.0	\$120.0	\$114.9	\$125.0	\$127.9	\$130.4	\$133.1	\$135.8
PPV Programming Cost / Sub.	\$0.30	\$0.34	\$0.49	\$0.74	\$1.37	\$1.83	\$2.33	\$2.91
PPV Programming Expense	\$28.7	\$27.4	\$41.3	\$61.6	\$115.0	\$154.7	\$198.1	\$247.9

Source: Morgan Stanley Research Estimates

Exhibit 50

## Premium / Pay-per-view Programming Costs per Subscriber (continued)

	Pro Forma							
	1999	2000	2001	2002E	2003E	2004E	2005E	2006E
<b>Comcast</b>								
Avg. Basic Subscribers	8,147,919	8,297,842	8,428,942	8,511,500	8,592,000	8,671,500	8,750,000	8,827,500
Avg. Premium Subscribers	6,672,607	6,684,245	6,758,469	6,742,805	6,679,867	6,618,360	6,546,478	6,463,803
Premium Programming Cost / Sub.	\$2.48	\$2.47	\$2.23	\$2.27	\$2.22	\$2.18	\$2.14	\$2.09
Premium Programming Expense	\$242.9	\$246.0	\$225.4	\$231.4	\$229.2	\$227.1	\$224.7	\$221.8
PPV Programming Cost / Sub.	\$0.61	\$0.56	\$0.57	\$0.73	\$0.93	\$1.31	\$1.73	\$2.20
PPV Programming Expense	\$59.3	\$55.7	\$58.1	\$74.1	\$95.9	\$136.2	\$181.9	\$232.5
<b>Cox Communications</b>								
Avg. Basic Subscribers	5,944,256	6,141,969	6,200,737	6,244,294	6,303,539	6,347,663	6,382,097	6,436,842
Avg. Premium Subscribers	4,002,223	4,190,373	4,134,258	4,147,856	4,089,069	4,069,224	4,041,693	4,007,015
Premium Programming Cost / Sub.	\$2.42	\$2.36	\$2.35	\$2.39	\$2.28	\$2.26	\$2.23	\$2.19
Premium Programming Expense	\$172.3	\$173.7	\$174.8	\$178.9	\$172.8	\$172.0	\$170.8	\$169.4
PPV Programming Cost / Sub.	\$0.91	\$0.96	\$0.84	\$1.18	\$1.63	\$2.13	\$2.69	\$3.31
PPV Programming Expense	\$65.1	\$71.1	\$62.5	\$88.1	\$123.6	\$162.1	\$206.2	\$255.8
<b>Insight Communications</b>								
Avg. Basic Subscribers	1,268,494	1,271,838	1,277,900	1,290,119	1,302,769	1,315,000	1,327,000	1,339,000
Avg. Premium Subscribers	936,267	1,018,470	769,038	754,283	760,326	764,851	771,329	774,272
Premium Programming Cost / Sub.	\$2.14	\$2.41	\$1.97	\$1.97	\$1.96	\$1.96	\$1.95	\$1.94
Premium Programming Expense	\$32.5	\$36.7	\$30.3	\$30.4	\$30.7	\$30.9	\$31.1	\$31.2
PPV Programming Cost / Sub.	\$0.46	\$0.49	\$0.61	\$0.75	\$0.99	\$1.41	\$2.06	\$2.74
PPV Programming Expense	\$7.0	\$7.4	\$9.4	\$11.6	\$15.5	\$22.2	\$32.8	\$44.0
Total Basic Subscribers - Major MSOs	54,012,106	55,912,251	56,432,537	56,649,708	57,071,787	57,424,584	57,775,968	58,126,498
Total Premium Subscribers - Major MSOs	41,709,324	43,597,927	45,580,261	45,949,903	45,957,615	45,855,017	45,651,075	45,359,336
Total Digital Subscribers - Major MSOs	2,253,003	5,775,657	11,431,353	17,007,747	22,099,752	26,409,055	29,994,797	33,078,145
Total Digital Premium Subscribers	3,298,863	3,420,051	4,388,886	7,242,060	10,996,898	14,734,878	18,174,294	21,333,858
Avg. Premium Progr. Cost / Sub	\$2.52	\$2.42	\$2.29	\$2.35	\$2.36	\$2.36	\$2.36	\$2.38
Avg. Premium Progr. Cost / Prem. Subscription	\$3.27	\$3.10	\$2.84	\$2.89	\$2.93	\$2.96	\$2.99	\$3.05
Premium Progr. Expense	\$1,635.5	\$1,623.7	\$1,553.3	\$1,594.9	\$1,613.7	\$1,628.3	\$1,639.1	\$1,658.4
Avg. PPV Progr. Cost / Sub	\$0.59	\$0.59	\$0.67	\$0.80	\$1.11	\$1.48	\$1.87	\$2.28
PPV Progr. Expense	\$381.3	\$393.1	\$454.1	\$540.6	\$759.5	\$1,018.2	\$1,297.0	\$1,591.3
Other Basic Subs (Small MSOs)	14,525,874	13,456,669	13,421,965	13,627,988	13,626,599	13,692,869	13,760,020	13,827,522
Other Premium Subs (Small MSOs)	5,374,574	4,709,834	4,429,248	4,088,397	4,087,980	4,107,861	4,128,006	4,148,257
Other Digital Subscribers	1,438,011	3,046,902	3,238,326	3,144,022	2,674,432	2,275,029	2,033,319	1,895,310
Other Digital Premium Subscribers	1,150,408	1,523,451	1,619,163	1,572,011	1,337,216	1,137,515	1,016,660	947,655
Avg. Premium Programming Cost / Sub.	\$2.52	\$2.42	\$2.29	\$2.35	\$2.36	\$2.36	\$2.36	\$2.38
Premium Progr. Expense	\$439.8	\$390.8	\$369.4	\$383.7	\$385.3	\$388.3	\$390.4	\$394.5
Avg. PPV Progr. Cost / Sub	\$0.59	\$0.59	\$0.67	\$0.80	\$1.11	\$1.48	\$1.87	\$2.28
PPV Progr. Expense	\$102.5	\$94.6	\$108.0	\$130.1	\$181.3	\$242.8	\$308.9	\$378.5
Total US Basic Subscribers	68,537,980	69,368,920	69,854,502	70,277,696	70,698,386	71,117,453	71,535,989	71,954,021
Total Premium Subscribers	51,533,169	53,251,263	56,017,558	58,852,370	62,379,709	65,835,270	68,970,034	71,789,106
Total Digital Subscribers - US	3,691,014	8,822,559	14,669,678	20,151,768	24,774,184	28,684,084	32,028,116	34,973,455
Total Digital Premium Subscribers	4,449,272	4,943,502	6,008,049	8,814,071	12,334,114	15,872,393	19,190,953	22,281,513
Avg. Prem. Progr. Cost / Sub	\$2.52	\$2.42	\$2.29	\$2.35	\$2.36	\$2.36	\$2.36	\$2.38
Premium Progr. Expense - Total US	\$2,075.3	\$2,014.5	\$1,922.7	\$1,978.5	\$1,999.0	\$2,016.6	\$2,029.4	\$2,052.9
Avg. PPV Progr. Cost / Sub	\$0.59	\$0.59	\$0.67	\$0.80	\$1.11	\$1.48	\$1.87	\$2.28
PPV Progr. Expense	\$483.9	\$487.7	\$562.1	\$670.7	\$940.8	\$1,261.0	\$1,605.9	\$1,969.8

E= Morgan Stanley Research Estimates

Broadband Cable Television - April 5, 2002

Please see the important disclosures at the end of this report.

---

## An Analysis of Premium Television

---

We have analyzed the subscriber, revenue, and earnings growth of the three major premium television networks from 1996 to 2001. We have come to the following conclusions, which should help frame our forecast for the industry over the next five years:

- **The premium networks have benefited from growth in digital cable and DBS penetration.** In part due to the marketing strategies employed by cable and satellite operators, the average premium penetration of a digital video subscriber is more than twice that of an analog subscriber. Further fueling premium penetration, premium households increased at a 6% CAGR from 1996 to 2001.
- **Increased premium penetration has resulted in a gradual shift in media usage from advertising-based television to non-advertising premium services.** As the television landscape becomes more fragmented, we expect non-advertising-based entertainment to continue to gain share from advertising-based content.
- **We estimate that 60–63% of the current premium households are digital video subscribers.** Once all of the premium households are converted to digital, we believe the cable industry will have to identify new strategies to increase digital cable penetration. We expect premium subscriptions to increase at a 4–5% CAGR through 2007, based on our expectation for 9–10% annual growth in digital subscribers. If digital-video penetration plateaus, we would expect premium subscriptions to stagnate.
- **The premium networks have built up pricing power by launching additional multiplexed channels to their subscriber base.** By providing incremental services, the premium industry has limited price discounting while driving subscriber penetration. We expect revenue per subscribing household to increase 2–3% per year from 2002 to 2007.
- **SVOD is likely to emerge as the next driver for digital video and premium subscription growth.** We look for subscription video on demand (SVOD) deployments to begin in earnest in late 2002. A successful SVOD deployment should provide the premium networks with new subscriber additions and incremental revenue per subscription, with limited incremental operating costs.
- **We expect HBO to continue to lead the industry, but believe that the market is clearly big enough for three competitors.** The three major players — HBO, Showtime, and Starz Encore — have differentiated themselves, and each has captured a respectable share of the growing premium market.

Over the past decade, the cable operators and the premium television providers have existed in a symbiotic relationship. Unlike their adversarial relationship with the basic cable networks, the cable operators have worked with the premium networks (HBO, Showtime, and Starz Encore) to enhance ARPU and boost digital video penetration rates. The premium networks have historically sold their content to the cable and DBS operators on a wholesale basis, allowing the operator to price the service in a manner that optimizes premium subscription and revenue growth. From 1998 to 2001, this pricing flexibility allowed the cable operators to bundle premium packages to boost digital cable penetration. Beginning in 2002, we expect the cable operators and premium networks to expand on their relationship through the deployment of subscription video on demand. For the cable operators, we believe SVOD could be the key to driving digital video to its current base of basic analog subscribers. For the premium network, we believe SVOD could boost both subscriber and pricing growth over the next three to four years with minimal incremental cost.

From 1996 to 2001, growth in digital video penetration (digital cable and DBS) enhanced premium subscription growth. In an effort to increase digital video penetration, both cable and DBS providers have offered bundled premium packages that offer increased discounts to subscribers that take multiple premium services. While the number of unique premium households (defined as a household that receives at least one premium service) has remained relatively constant over the past five years, an increase in the number of premium subscriptions per household caused premium subscription units to increase at a 10% CAGR from 1996 to 2001.

Growth in premium subscriptions has shifted media usage trends from advertising-based broadcast and cable networks to non-advertising-based premium television. In 1996, the average individual spent 1.7 hours per week watching premium television, representing 5.5% of total television usage. By 2001, we estimate that average premium usage will reach to 2.1 hours per week, represent-

ing 6.3% of television usage. All of the major premium networks offer multiplexed movie channels that highlight specific genres of content. Multiplexed offerings increase customer choice, which we believe has caused the aggregate ratings of the premium networks to climb. We believe the logical extension of the multiplexed strategy is subscription video on demand, in which the consumer has the ability to view the majority of the content shown on the multiplexed channels in a given month whenever he or she chooses. We believe the added convenience of SVOD will continue to divert television usage from advertising-based to premium television.

**From 2002 to 2007, we expect premium penetration within digital households to gradually decline, as the marginal digital subscriber is likely to take fewer premium services than the early adopters.** We estimate that the vast majority of analog premium subscribers will have upgraded to digital by the end of 2002. Thus, we believe that the next wave of digital subscribers, current basic-only subscribers, are less likely to subscribe to multiple premium services.

The cable operators are faced with the risk that the rate of digital additions will quickly deteriorate after the analog premium subscriber base is fully converted to digital. In an effort to boost digital penetration above the premium penetration threshold of 45–50%, we expect the major US cable operators to begin a major marketing push behind SVOD. With a stockpile of first-run feature films and non-advertising-based original programming, the premium networks appear to be well positioned to capitalize on the growth in SVOD. In our opinion, a successful SVOD deployment by the cable industry will benefit the premium networks by increasing premium take rates within current digital households, as well as encouraging current analog subscribers to upgrade to a digital premium package.

**From 2002 to 2007, we expect premium revenue and EBITDA to increase at CAGRs of 6–7% and 8–9%, respectively.** In 2000 and 2001, the premium networks kept wholesale pricing relatively stable, which enabled the cable and satellite operators to boost digital video penetration. We believe that a critical base of digital subscribers has been established, and expect the premium networks to pass through moderate (2–3%) price increases for their digital premium packages. We believe our pricing assumptions are relatively conservative, since all of the premium networks have enhanced the breadth and depth of their digital packages through multiplexed offerings.

While not currently reflected in our industry forecasts, we believe SVOD could boost both premium subscription growth and revenue per subscriber growth by 100–200 basis points per year through 2007. Combined, these two elements would enhance the long-term annual revenue growth rate of the premium television networks from 6–7% to 9–10%. Since there should be only minimal incremental costs to the premium networks associated with SVOD, we expect additional revenue growth to have a magnified impact on earnings growth.

We believe the competitive strategies employed by HBO, Showtime, and Starz Encore position all three networks to maintain their respective shares of the growing premium television industry. Each network has differentiated itself from its competitors — Starz Encore through its value proposition, HBO through its brand equity and differentiated original programming, and Showtime through its demographic focus. Since the networks are not close substitutes for one another, consumers have been more inclined to subscribe to multiple premium services than switch back and forth among the three services. In our view, high barriers to entry — a product of each network's strong brand awareness and control over premium content and original programming — make it extremely unlikely for a new competitor to emerge within the premium network industry.



### Premium Revenue & Operator Programming Cost Analysis

Exhibit 51 compares our premium network revenue forecast with our cable television industry revenue and programming cost projections. We expect gross margins on video to decline from 67–68% in 2001 to 64–65% in 2006, reflecting 8–9% annual video revenue growth offset by 10–11% annual growth in programming expenses. As outlined in the exhibit, we expect escalating margins on digital/premium revenue (from 54% in 2001 to 58% in 2006) to be offset by decline margins on basic programming (71% in 2001 to 68% in 2006). Incremental revenue and digital penetration stemming from SVOD would likely enhance aggregate video gross profits above our current projections.

Based on our forecasts for the top eight cable operators, we expect cable video revenue to increase at an 8–9% CAGR from 2001 to 2006, fueled by a 29–30% increase in digital revenue. Our premium revenue forecast of 1–2% CAGR growth is a bit misleading — many cable operators offer bundled digital packages that include premium services.

Typically, the entire revenue is reported as digital revenue. To avoid this allocation issue, we believe it is more useful to analyze premium and digital revenue on a combined basis. Accordingly, we expect digital/premium revenue to increase at a 14–15% CAGR through 2006.

Based on our premium-channel revenue forecasts outlined in this report, we expect the cable industry's share of premium programming costs to increase at an 8–9% CAGR through 2006. Combined with approximately \$2.00 per subscriber/month in digital basic programming expenses, we expect aggregate premium/digital programming expenses to increase at a 12–13% CAGR through 2006. Currently, many start-up digital networks do not receive affiliate fees from cable operators. As their distribution base expands and the quality of their content improves, we expect moderate growth in non-premium digital channel affiliate fees. Combined with basic programming costs (expected to increase at a 7–8% CAGR) and PPV costs (assumed at 55% of PPV revenue), we expect aggregate video programming expenses to increase at 10–11% CAGR.

Exhibit 51

### Cable Operator Revenue/ Programming Cost Projections

	Pro Forma							
	1999	2000	2001	2002E	2003E	2004E	2005E	2006E
Basic Revenue	19,890	21,305	22,405	23,610	24,924	26,325	27,803	29,363
Premium Revenue	3,105	3,152	2,949	3,036	3,070	3,096	3,115	3,151
Digital Revenue	326	834	1,713	2,614	3,542	4,432	5,270	6,086
Total Subscriber Video Rev.	23,320	25,292	27,067	29,260	31,536	33,853	36,188	38,600
PPV Revenue	719.5	691.1	825.6	983.0	1,379.4	1,847.3	2,358.2	2,893.2
Total Video Revenue	\$24,040	\$25,983	\$27,893	\$30,243	\$32,915	\$35,700	\$38,546	\$41,493
Change %		8.1%	7.4%	8.4%	8.8%	8.5%	8.0%	7.6%
Basic Programming Expenses	5,111	5,743	6,414	7,055	7,682	8,233	8,819	9,443
% of Basic Revenue	25.7%	27.0%	28.6%	29.9%	30.8%	31.3%	31.7%	32.2%
Premium Expenses	1,635	1,624	1,553	1,595	1,614	1,628	1,639	1,658
Digital Premium Programming Expense	6	135	350	46	621	835	1,009	1,172
Digital Basic Programming Expenses	38	117	263	517	616	666	784	1,004
Total Premium/Digital Expenses	1,740	1,876	2,166	2,574	2,851	3,129	3,432	3,835
% of Premium/Digital Revenue	50.7%	47.0%	46.5%	45.6%	43.1%	41.6%	40.9%	41.5%
Total Subscriber Video Expense	6,852	7,619	8,580	9,629	10,533	11,362	12,252	13,278
PPV	381	393	454	541	759	1,018	1,297	1,591
% of PPV Revenue	53%	57%	55%	55%	55%	55%	55%	55%
Total Programming Expense	\$7,233	\$8,012	\$9,034	\$10,170	\$11,292	\$12,380	\$13,549	\$14,869
% of Revenue	30.1%	30.8%	32.4%	33.6%	34.3%	34.7%	35.1%	35.8%
Gross Margin %								
Basic	74%	73%	71%	70%	69%	69%	68%	68%
Premium/Digital	49%	53%	54%	54%	57%	58%	59%	58%
PPV	47%	43%	45%	45%	45%	45%	45%	45%
Total Video Programming	70%	69%	68%	66%	66%	65%	65%	64%

Source: Morgan Stanley Research Estimates

**Premium Usage Trends**

The average time spent watching premium television (non-advertising based pay television networks) has been on the rise. In 1996, the average individual watched 1.7 hours of premium television per week. By 2001, we average usage increased to an estimated 2.1 hours per week, reflecting a 20% increase. Based on our estimate that premium-channel subscribers represent 38% of US households (40% of television households), we estimate that the average premium subscriber watched 5.6 hours of premium television per week in 2001, or approximately two movies per week ( $2.1/38\% = 5.6$  hours). We believe the increase in premium usage over the past five years has been driven by growth in premium penetration, coupled with a moderate increase in usage per premium subscriber.

We expect average household premium usage per US household to reach 2.3 hours per week by 2003. Growth in digital cable and DBS satellite penetration should boost

premium channel penetration from 44% of television households in 2001 to 48% by 2003. Our usage forecast is based on the assumption that usage per subscribing household remains steady at 5.6 hours per week.

While not currently in our forecasts, we believe the commercial rollout of subscription VOD services could increase premium-channel usage an additional 10–15% over the next three years. We believe that an interactive offering can enhance usage patterns in two ways:

- On-demand applications should increase digital-video and premium penetration levels by encouraging basic subscribers to upgrade and limiting churn among current premium subscribers.
- The increased choice and ease of use afforded by the full VCR functionality of SVOD should increase usage patterns of current subscribers.

Exhibit 52

**Television Usage Trends - 1996-2005E**

Hours per Week of Usage	1996	1997	1998	1999	2000	2001E	2002E	2003E	2004E	2005E	'96-'00 CAGR	'01-'05 CAGR
Broadcast TV	18.9	17.8	17.0	16.7	17.4	17.0	16.5	16.1	15.8	15.5	(2.1%)	(2.3%)
Cable TV	9.3	10.0	10.9	11.9	12.4	12.8	13.3	13.7	14.0	14.3	7.3%	2.8%
Premium Channels	1.7	1.9	1.9	2.0	2.0	2.0	2.2	2.3	2.3	2.4	4.0%	4.0%
Home Video/DVD	1.0	1.0	1.1	1.1	1.1	1.1	1.2	1.2	1.3	1.3	1.8%	3.6%
Total Television	31.0	30.7	30.9	31.6	32.9	32.9	33.2	33.3	33.4	33.5	1.5%	0.4%
Total Media Usage	66.3	65.9	66.7	67.8	68.8	68.9	69.5	69.8	70.2	70.4	0.9%	0.6%
Change (bps)												
Share of Total Television Usage	1996	1997	1998	1999	2000	2001E	2002E	2003E	2004E	2005E	'96-'00	'01-'05
Broadcast TV	61.1%	57.8%	55.0%	52.8%	53.0%	51.5%	49.6%	48.4%	47.2%	46.2%	(811)	(531)
Cable TV	30.1%	32.5%	35.2%	37.6%	37.6%	38.8%	40.2%	41.2%	42.0%	42.7%	751	391
Premium Channels	5.5%	6.3%	6.3%	6.3%	6.1%	6.2%	6.7%	6.8%	7.0%	7.1%	56	93
Home Video/DVD	3.3%	3.3%	3.4%	3.3%	3.4%	3.4%	3.5%	3.6%	3.8%	3.9%	4	46
Advertising-based	91.1%	90.4%	90.3%	90.4%	90.5%	90.4%	89.8%	89.5%	89.2%	89.0%	(60)	(140)
Non-advertising based	8.9%	9.6%	9.7%	9.6%	9.5%	9.6%	10.2%	10.5%	10.8%	11.0%	60	140

E = Morgan Stanley Research Estimate

Source: Veronis Suhler

**Premium Subscriber Analysis**

We expect premium subscriptions to increase at a 4.5–5.0% CAGR from 2002 to 2007. Over the past five years, premium take-rates have been considerably higher on digital cable and DBS than on analog cable. As a result, the migration to digital video has helped fuel 9–10% annual growth in premium subscriptions over the past five years. We believe that some of this growth is attributed to price promotions by cable and DBS operators designed to fuel digital video penetration. While the premium networks often coordinate marketing efforts with the cable and satellite providers, premium price discounting is equivalent to an incremental marketing expense for operators. The discount is booked as a reduction of revenue rather than an expense, but the impact on EBITDA is identical. The wholesale revenue received by the premium networks does not vary with the operators' pricing decisions.

**Premium take-rates have been higher on digital cable and DBS than on analog cable. . . the migration to digital video has fueled 9–10% annual growth in premium subscriptions over the past five years.**

We expect premium penetration rates of digital video households to gradually decline as new digital video subscribers are likely to take less premium services than the early adopters. As a result, we expect premium subscriptions to increase at about half the 9–10% projected CAGR in digital video penetration from 2002 to 2007.

We expect subscription VOD services to be the next driver of premium subscriber growth over the next five years. Most of the major cable MSOs are testing SVOD services, in an effort to boost subscriptions, reduce churn, and enhance the revenue growth of their digital video product. We believe a successful SVOD rollout will likely encourage both basic and digital customers to upgrade to premium services that maximize the value of SVOD's capabilities.

**1996–2001 Review: The Evolution of Premium TV**

At the end of 2001, we estimate that there were approximately 101–102 million aggregate premium subscription units. We estimate that each premium subscriber takes approximately 2.2 premium services, equating to approximately 45–47 million unique premium subscribers, representing 55–56% multichannel penetration. In our calculation

of unique premium subscribers, we account for premium subscribers that receive multiple services from a certain provider (i.e., a subscriber that receives both HBO and Cinemax from AOL Time Warner) and subscribers that receive multiple services from competitive providers (i.e., a subscriber that receives HBO and Starz). In our analysis, a premium subscriber that receives three premium services would be counted as one unique premium subscriber and three subscription units.

In 2001, we estimate that the unique premium-subscriber universe is currently comprised of 16–17 million DBS households (92% penetration), 13–14 million digital cable households (89% penetration), and 17–18 million analog cable households (34% penetration). Based on these assumptions, we estimate that digital video (cable and DBS) already accounts for 60–65% of premium households. This makes intuitive sense if we consider that digital video comprises 38–39% of the multichannel universe and that virtually all of the early digital adopters were already premium subscribers.

More favorable premium subscription trends on digital cable and DBS has enhanced premium-subscription growth. From 1996 to 2001, higher premium take-rates on digital systems caused premium subscriptions to increase at a 10–11% CAGR, about twice the 5–6% growth rate experienced in premium households. In 1996, we estimate that there were approximately 63–64 million aggregate subscription units, spread across 34–35 million households, equating to 1.8 services per premium subscriber. By 2001, the number of premium services per premium subscriber jumped to 2.2, reflecting an influx of digital cable and DBS subscribers that receive an average of 2.6–2.7 premium services.

We believe the increase in premium take-rates on digital reflects the impact of bundled premium packages, in which subscribers are marketed multiple premium services on digital for a modest incremental fee over their current premium bill on analog. We believe the bundled premium offering has both boosted digital penetrations as well as encouraged new digital households to subscribe to multiple premium services to get the most value from the digital platform.

We estimate that about 90% of DBS and digital-cable subscribers receive at least one premium service. We estimate that the average digital video premium subscriber received 3.0 services in 1996, declining to 2.6–2.7 services

by 2001. We estimate that in 2001 DBS and digital cable households currently account for 43% and 34% of aggregate premium subscriptions, respectively.

The migration to digital video has caused a gradual decline in the premium usage trends of analog cable households. In 1996, we estimate that there were 51–52 million analog premium subscriptions (80–81% of aggregate subscriptions), spread across 30–31 premium analog households. By 2001, we estimate that the number of analog premium subscriptions declined to 22–23 million, across 17–18 million households. Reflecting the migration of heavy-premium users to digital, we estimate that the number of subscriptions per premium subscriber on analog declined from 1.7 in 1996 to 1.3 in 2001.

Over the next five years, we expect the favorable impact of digital video penetration on premium take-rates to gradually subside. We look for subscription video on demand (SVOD) to emerge as the next driver of premium subscription growth, the impact of which could be felt as early as the second half of 2002.

**2002–2007 Preview: Anticipating the impact of SVOD.** From 2002 to 2007, growth in digital video penetration should continue to boost premium subscription levels. We expect digital video penetration (DBS and cable) to increase from 32.2 million in 2001 (38–39% multichannel penetration) to 39–40 million in 2002 (45–46%). From 2002 to 2007, we expect digital video penetration to increase at a 9–10% CAGR, to 62–63 million households by 2007.

Reflecting a decline in premium penetration of new digital additions, the long-term growth rate of premium subscriptions should be about half that of digital-video growth.

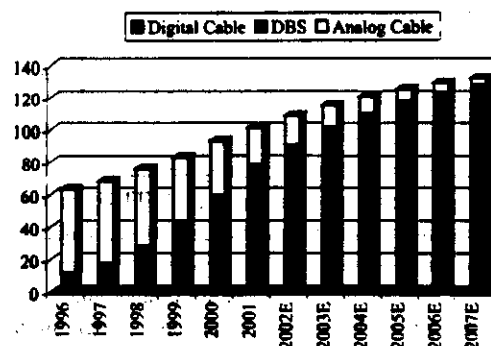
While more favorable take-rates on digital should enhance premium penetration, we expect new digital additions to take fewer premium services than current digital subscribers. By 2003, the vast majority of analog premium subscribers will likely have already migrated to digital cable or DBS. We expect premium penetration of digital households to remain flat at 90–95% in 2002–2007. However, reflecting the conversion of non-premium subscribers, we expect that the subscription units per digital household will drop from about 2.7 in 2001 to 2.5 in 2007.

*Broadband Cable Television – April 5, 2002*

Please see the important disclosures at the end of this report.

Exhibit 53

### Premium Subscriber Forecast



Source: Morgan Stanley Research Estimates

Exhibit 53 demonstrates our expectations for a gradual migration of premium subscribers from analog cable to digital cable and DBS. By 2007, we expect nearly all premium subscribers to be on digital or DBS platforms. We anticipate that many operators will begin to only offer premium services as part of a digital package, with only basic services available on analog.

While we expect premium subscription growth to be about half the rate of digital video growth from 2002 to 2007, our forecasts do not reflect the impact of SVOD on premium take-rates. According to *Multichannel News*, "internal Comcast surveys show that although 35% of digital subscribers were interested in VOD, 40% of analog subscribers expressed an interest in digital once VOD was included (*Multichannel News*, March 11, 2002)." While some of the analog customers that upgrade to digital may only opt for free VOD services with on-demand basic programming from the likes of Discovery Communications, A&E, and Nickelodeon, we expect a significant percentage to upgrade to a premium digital package to gain access to on-demand premium content.

#### SVOD strategies vary by premium network.

Starz Encore intends to offer Starz in Demand, in which approximately 100–120 of its feature films, including current releases and older classics should be available each month for on-demand usage with full VCR functionality. Both HBO and Showtime have focused more on providing original programming series, such as the *Sopranos* and *Queer as Folk* available on SVOD, along with a limited selection of feature films. We believe Showtime and HBO's emphasis on original programming reflects both networks' reluctance to cannibalize DVD sell-through and

video rental revenue generated within their sister film studios Warner Brothers and Paramount. Since Starz Encore is independent of any film studio, the network does not have the same hesitation in taking share from other distribution windows.

**SVOD deployment timeline.** By the end of 2002, we expect the domestic SVOD-enabled subscriber base to reach approximately 2.1 million digital subscribers, representing 10.8% of the digital cable footprint. By 2006, we expect almost all digital subscribers to be VOD enabled, with the VOD-enabled base reaching 34–35 million.

**The pricing for on-demand premium service has yet to be determined.** We expect the cable operators to offer SVOD premium services for an incremental fee of \$3–5 per month over its current premium rates. We expect this fee to

allow for SVOD capabilities across all of the premium services a subscriber receives. Since many subscribers receive multiple premium services, the cable operator is faced with the dilemma of how to split the incremental SVOD fee with the multiple premium providers. If each premium service commands an additional \$1.00 in wholesale revenue for SVOD, the operator's incremental gross margin on SVOD should erode as additional premium services are added. We believe, however, that this may be acceptable for the cable operators, since consumer acceptance of SVOD will likely reduce churn and increase premium penetration. From the cable operator's perspective, the lost margin on SVOD is not likely to outweigh the incremental margin generated from subscribers that take more than one multiplexed premium service. (To get SVOD Starz Encore or HBO, we expect the operator will require a subscriber to also pay for the current multiplexed premium offering.)

**Exhibit 54**  
**Cable Operator S-VOD Forecast**
*In Thousands*

	Pro Forma		Pro Forma				
	2000	2001	2002E	2003E	2004E	2005E	2006E
<b>Digital Homes Passed</b>							
Adelphia	8,758	9,549	9,692	9,838	9,985	10,135	10,287
AT&T (1)	21,794	23,337	24,922	25,296	25,676	26,061	26,452
Cablevision	0	550	4,420	4,486	4,553	4,622	4,691
Charter Communications	8,793	10,638	11,249	11,437	11,628	11,822	12,019
Comcast	11,162	13,596	13,864	14,072	14,283	14,497	14,715
Cox Communications	7,397	9,258	9,424	9,565	9,709	9,854	10,002
Insight Communications	777	1,144	2,170	2,202	2,235	2,269	2,303
AOL Time Warner	12,829	18,266	18,540	18,818	19,100	19,387	19,678
Other	7,005	7,500	7,500	7,500	7,500	7,500	7,500
<b>Total</b>	<b>78,515</b>	<b>93,839</b>	<b>101,781</b>	<b>103,214</b>	<b>104,669</b>	<b>106,146</b>	<b>107,646</b>
<i>Top 8 as % of Total</i>	<i>91%</i>	<i>92%</i>	<i>93%</i>	<i>93%</i>	<i>93%</i>	<i>93%</i>	<i>93%</i>
<b>Digital Video Subscribers</b>							
Adelphia	723	1,503	2,159	2,771	3,267	3,597	3,809
AT&T (1)	2,430	3,475	4,477	5,215	5,879	6,454	6,953
Cablevision	0	17	145	466	700	948	1,243
Charter Communications	1,178	2,145	2,780	3,308	3,721	4,127	4,549
Comcast	1,216	1,869	2,398	2,839	3,239	3,570	3,852
Cox Communications	842	1,386	2,009	2,535	3,010	3,427	3,798
Insight Communications	152	258	370	494	642	796	900
AOL Time Warner	1,564	2,976	4,254	5,441	6,263	6,930	7,495
Other	718	1,041	1,561	1,707	1,962	2,179	2,374
<b>Total</b>	<b>8,823</b>	<b>14,670</b>	<b>20,152</b>	<b>24,774</b>	<b>28,684</b>	<b>32,028</b>	<b>34,973</b>
<i>Top 8 as % of Total</i>	<i>92%</i>	<i>93%</i>	<i>92%</i>	<i>93%</i>	<i>93%</i>	<i>93%</i>	<i>93%</i>
<b>S-VOD Subscribers</b>							
Adelphia	0	80	110	1,110	1,960	2,880	3,810
AT&T (1)	0	0	350	1,560	3,530	5,810	6,950
Cablevision	0	20	140	470	700	950	1,240
Charter Communications	0	50	480	1,650	2,980	4,130	4,550
Comcast	0	0	430	2,130	2,920	3,570	3,850
Cox Communications	0	0	0	1,520	2,410	3,430	3,800
Insight Communications	0	0	40	490	640	800	900
AOL Time Warner	0	150	610	3,260	5,010	6,930	7,490
Other	0	0	0	170	590	1,090	1,660
<b>Total</b>	<b>0</b>	<b>300</b>	<b>2,160</b>	<b>12,360</b>	<b>20,740</b>	<b>29,590</b>	<b>34,250</b>
<b>S-VOD Penetration of Digital Subs</b>							
Adelphia	0.0%	5.0%	5.0%	40.0%	60.0%	80.0%	100.0%
AT&T (1)	0.0%	0.0%	7.7%	30.0%	60.0%	90.0%	100.0%
Cablevision	0.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Charter Communications	0.0%	2.5%	17.3%	50.0%	80.0%	100.0%	100.0%
Comcast	0.0%	0.0%	18.0%	75.0%	90.0%	100.0%	100.0%
Cox Communications	0.0%	0.0%	0.0%	60.0%	80.0%	100.0%	100.0%
Insight Communications	0.0%	0.0%	10.0%	100.0%	100.0%	100.0%	100.0%
AOL Time Warner	0.0%	5.0%	14.3%	60.0%	80.0%	100.0%	100.0%
Other	0.0%	0.0%	0.0%	10.0%	30.0%	50.0%	70.0%
<b>Total</b>	<b>0.0%</b>	<b>2.0%</b>	<b>10.7%</b>	<b>49.9%</b>	<b>72.3%</b>	<b>92.4%</b>	<b>97.9%</b>

*E = Morgan Stanley Research Estimates*
**Broadband Cable Television – April 5, 2002**
**Please see the important disclosures at the end of this report.**

## Exhibit 55

## Premium Subscriber Analysis

Subscriber Analysis (in million)	1996	1997	1998	1999	2000	2001	2002E	2003E	2004E	2005E	2006E	2007E
<b>Home Box Office</b>												
HBO	22.4	22.9	24.1	24.7	26.3	27.8	29.3	30.9	32.2	33.4	34.5	35.0
Cinemax	10.0	10.0	10.5	11.0	10.7	10.8	11.4	11.8	12.2	12.5	12.7	12.9
Total Subscribers	32.4	32.9	34.6	35.7	37.0	38.5	40.7	42.7	44.4	45.9	47.2	47.9
% Change		1.6%	5.1%	3.2%	3.6%	4.1%	5.6%	4.9%	4.0%	3.3%	2.9%	1.5%
Aggregate Subscription Units	32.4	32.9	34.6	35.7	37.0	38.5	40.7	42.7	44.4	45.9	47.2	47.9
Est. Channels per HH	1.4	1.4	1.4	1.4	1.4	1.3	1.3	1.3	1.3	1.3	1.3	1.3
Total Subscribing Households	23.4	23.9	25.2	25.8	27.3	28.8	30.5	32.1	33.4	34.7	35.8	36.3
% Basic Penetration		33.9%	35.6%	35.3%	34.3%	34.7%	35.6%	36.5%	37.4%	38.1%	38.8%	38.8%
<b>Showtime</b>												
Showtime	12.3	13.9	14.9	17.4	21.2	23.5	25.2	26.4	27.2	27.9	28.4	28.7
The Movie Channel	2.0	2.5	2.9	3.5	4.2	4.7	5.0	5.3	5.4	5.6	5.7	5.7
FLIX	1.6	1.8	2.0	2.3	2.8	3.1	3.4	3.5	3.6	3.7	3.8	3.8
Aggregate Subscribers	15.9	18.2	19.7	23.2	28.2	31.3	33.6	35.2	36.3	37.1	37.8	38.3
% Change		14.5%	8.2%	17.8%	21.6%	11.0%	7.5%	4.6%	3.2%	2.3%	1.8%	1.1%
Aggregate Subscription Units	15.9	18.2	19.7	23.2	28.2	31.3	33.6	35.2	36.3	37.1	37.8	38.3
Est. Channels per HH	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3
Total Subscribing Households	12.3	13.9	14.9	17.4	21.2	23.5	25.2	26.4	27.2	27.9	28.4	28.7
% Multichannel Penetration		19.8%	21.1%	23.8%	26.5%	28.3%	29.4%	30.0%	30.4%	30.6%	30.8%	30.7%
<b>Starz Encore Group</b>												
Starz	4.9	6.7	8.8	10.2	11.5	13.0	14.4	15.8	16.9	17.9	18.9	19.7
Encore	10.2	10.4	12.7	13.7	16.3	18.2	19.9	21.5	22.9	24.2	25.4	26.5
Total Subscriber Base	15.1	17.1	21.5	24.0	27.9	31.2	34.3	37.3	39.8	42.1	44.3	46.2
Growth %		13.3%	25.6%	11.8%	16.2%	12.1%	9.7%	8.7%	6.9%	5.8%	5.1%	4.4%
Aggregate Subscription Units	15.1	17.1	21.5	24.0	27.9	31.2	34.3	37.3	39.8	42.1	44.3	46.2
Starz Encore services per sub	1.5	1.6	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7
Total Subscribing Households	10.2	10.4	12.7	13.7	16.3	18.2	19.9	21.5	22.9	24.2	25.4	26.5
% Basic Penetration	14.7%	14.8%	17.9%	18.8%	20.3%	21.9%	23.2%	24.5%	25.6%	26.6%	27.5%	28.4%
<b>Premium Subscriber Units</b>												
Showtime	12.3	13.9	14.9	17.4	21.2	23.5	25.2	26.4	27.2	27.9	28.4	28.7
TMC/FLIX	3.6	4.3	4.8	5.8	7.1	7.8	8.4	8.8	9.1	9.3	9.5	9.6
HBO	22.4	22.9	24.1	24.7	26.3	27.8	29.3	30.9	32.2	33.4	34.5	35.0
Cinemax	10.0	10.0	10.5	11.0	10.7	10.8	11.4	11.8	12.2	12.5	12.7	12.9
Starz	4.9	6.7	8.8	10.2	11.5	13.0	14.4	15.8	16.9	17.9	18.9	19.7
Encore	10.2	10.4	12.7	13.7	16.3	18.2	19.9	21.5	22.9	24.2	25.4	26.5
Aggregate Subscription Units	63.4	68.2	75.8	82.9	93.1	101.1	108.6	115.2	120.5	125.2	129.3	132.3
% Change		7.6%	11.1%	9.4%	12.3%	8.6%	7.5%	6.0%	4.7%	3.8%	3.3%	2.4%
<b>Aggregate Unique Subscribers</b>												
Showtime/TMC/FLIX	12.3	13.9	14.9	17.4	21.2	23.5	25.2	26.4	27.2	27.9	28.4	28.7
HBO/Cinemax	23.4	23.9	25.2	25.8	27.3	28.8	30.5	32.1	33.4	34.7	35.8	36.3
Starz/Encore	10.2	10.4	12.7	13.7	16.3	18.2	19.9	21.5	22.9	24.2	25.4	26.5
Duplicated Households	(11.2)	(12.2)	(13.8)	(15.6)	(20.6)	(24.0)	(27.1)	(29.9)	(32.1)	(33.8)	(35.0)	(35.9)
Aggregate Unique Subscribers*	34.6	36.0	38.9	41.4	44.2	46.5	48.5	50.0	51.5	52.9	54.6	55.6
Services/ Premium Subscriber	1.83	1.89	1.95	2.00	2.11	2.17	2.24	2.30	2.34	2.37	2.37	2.38
Multichannel Penetration	50%	51%	55%	57%	55%	56%	57%	57%	58%	58%	59%	59%
TV Penetration	40%	41%	44%	45%	46%	47%	47%	48%	48%	49%	49%	50%
HH Penetration	38%	39%	42%	43%	43%	44%	45%	45%	46%	46%	47%	47%

\* Defined as a household that takes at least one premium service.

E= Morgan Stanley Research Estimates

Source: Company Data, Morgan Stanley Research

## Exhibit 56

## Premium Subscriber Analysis (continued)

Industry Summary	1996	1997	1998	1999	2000	2001	2002E	2003E	2004E	2005E	2006E	2007E
Total Households	90.6	92.6	92.9	96.3	101.7	104.7	108.0	110.7	112.8	114.6	116.3	117.8
Total Television Households	86.1	88.0	88.3	91.5	96.6	99.5	102.6	105.2	107.2	108.9	110.5	112.0
Total Multi-channel Households	68.9	70.4	70.6	73.2	79.7	83.1	85.7	87.8	89.5	90.9	92.3	93.5
Digital Cable Households	-	-	1.5	4.9	8.8	14.7	19.6	24.1	27.9	31.1	34.1	36.8
DBS Households	4.2	6.3	8.7	11.5	14.8	17.5	19.7	21.4	22.6	23.7	24.6	25.3
Total Digital Video HH	4.2	6.3	10.2	16.4	23.6	32.2	39.3	45.5	50.6	54.8	58.6	62.1
% Multichannel Penetration	6.1%	8.9%	14.4%	22.4%	29.6%	38.7%	45.8%	51.8%	56.5%	60.3%	63.3%	66.5%
Multichannel Households	68.9	70.4	70.6	73.2	79.7	83.1	85.7	87.8	89.5	90.9	92.3	93.5
Premium Penetration	92%	97%	107%	113%	117%	122%	127%	131%	135%	138%	140%	142%
Total Premium Subscriptions	63.4	68.2	75.8	82.9	93.1	101.1	108.6	115.2	120.5	125.2	129.3	132.3
Subscriptions / Premium Household	1.83	1.89	1.95	2.00	2.11	2.17	2.24	2.30	2.34	2.37	2.37	2.38
Total Premium Households	34.6	36.0	38.9	41.4	44.2	46.5	48.5	50.0	51.5	52.9	54.6	55.6
% Multichannel Penetration	50%	51%	55%	57%	55%	56%	57%	57%	58%	58%	59%	59%
DBS Subscribers	4.2	6.3	8.7	11.5	14.8	17.5	19.7	21.4	22.6	23.7	24.6	25.3
Premium Penetration	285%	285%	279%	272%	259%	251%	244%	238%	234%	231%	229%	227%
DBS Premium Subscriptions	12.0	17.9	24.3	31.3	38.2	43.9	48.0	51.0	53.1	54.7	56.2	57.4
% of Total Premium Subs	19%	26%	32%	38%	41%	43%	44%	44%	44%	44%	43%	43%
Subscriptions / Premium Household	3.00	3.00	2.94	2.87	2.79	2.72	2.66	2.62	2.60	2.59	2.57	2.56
Premium Households	4.0	6.0	8.3	10.9	13.7	16.1	18.1	19.5	20.4	21.1	21.8	22.5
% DBS Penetration	95%	95%	95%	95%	93%	92%	92%	91%	90%	89%	89%	89%
Digital Cable Subscribers	-	-	1.5	4.9	8.8	14.7	19.6	24.1	27.9	31.1	34.1	36.8
Premium Penetration	0%	0%	300%	258%	247%	237%	218%	210%	205%	202%	198%	193%
Digital Cable Premium Subscriptions	-	-	4.5	12.7	21.7	34.7	42.7	50.6	57.3	63.0	67.4	70.8
% of Total Premium Subs	0%	0%	6%	15%	23%	34%	39%	44%	48%	50%	52%	54%
Subscriptions / Premium Household	3.00	3.00	3.00	2.78	2.69	2.66	2.66	2.68	2.64	2.60	2.49	2.44
Premium Households	-	-	1.5	4.6	8.1	13.0	16.0	18.9	21.7	24.3	27.0	29.1
% Digital Cable Penetration	-	-	100%	93%	92%	89%	82%	78%	78%	78%	79%	79%
Analog Cable Subscribers	64.7	64.1	60.4	56.8	56.1	50.9	46.4	42.3	38.9	36.1	33.7	31.3
Premium Penetration	79%	78%	78%	69%	59%	44%	38%	32%	26%	21%	17%	13%
Analog Premium Subscriptions	51.4	50.3	47.0	38.9	33.2	22.4	17.9	13.5	10.1	7.5	5.7	4.1
% of Total Premium Subscriptions	81%	74%	62%	47%	36%	22%	16%	12%	8%	6%	4%	3%
Subscriptions / Premium Household	1.68	1.67	1.61	1.50	1.48	1.29	1.24	1.16	1.08	1.00	1.00	1.00
Premium Households	30.6	30.1	29.2	25.9	22.5	17.4	14.4	11.7	9.4	7.5	5.7	4.1
% Analog Cable Penetration	47%	47%	48%	46%	40%	34%	31%	28%	24%	21%	17%	13%
Total Cable Subscribers	64.7	64.1	61.9	61.7	64.9	65.6	66.0	66.4	66.9	67.3	67.7	68.1
Premium Penetration	79%	78%	83%	84%	85%	87%	92%	97%	101%	105%	108%	110%
Cable Premium Subscriptions	51.4	50.3	51.5	51.6	54.9	57.1	60.6	64.2	67.5	70.5	73.1	74.9
Subscriptions / Premium Household	1.68	1.67	1.68	1.69	1.80	1.88	1.99	2.10	2.17	2.22	2.23	2.26
Premium Households	30.6	30.1	30.7	30.6	30.6	30.4	30.4	30.6	31.1	31.7	32.8	33.2
Premium Subscription Breakdown												
% Digital (DBS & Digital Cable)	19%	26%	38%	53%	64%	78%	84%	88%	92%	94%	96%	97%
% Analog	81%	74%	62%	47%	36%	22%	16%	12%	8%	6%	4%	3%

E = Morgan Stanley Research Estimates

Source: Company Data, Morgan Stanley Research



### Operating Forecast & Competitive Analysis

We expect the premium networks to grow revenues 6.5–7.0% annually from 2002 to 2007. From the cable and DBS operators' perspective, this translates into 6.5–7.0% annual growth in premium programming costs. Our forecast assumes 4% annual growth in subscription units, coupled with 2.5% growth in revenue (programming costs for the operators) per subscription unit. Reflecting an increase in the number of premium services per household, we expect premium revenue (programming costs) per unique premium subscriber to increase 3–4% per year through 2007.

We believe long-term revenue growth could be further enhanced by the commercial deployment of subscription video on demand services. The addition of SVOD would likely increase revenue per subscriber growth by 200 basis points, which would boost annual premium channel revenue growth to approximately 8–9%.

Fixed-cost leverage should allow all three premium movie providers to increase EBITDA margins an average of 50–60 basis points per year from 2002 to 2007, supporting 8–9% annual EBITDA growth. While we expect programming costs to increase in line with revenues, we expect all three providers to exert fixed-cost leverage over marketing and SG&A costs. We believe the majority of the additional revenue growth afforded by SVOD services should all fall to the bottom line.

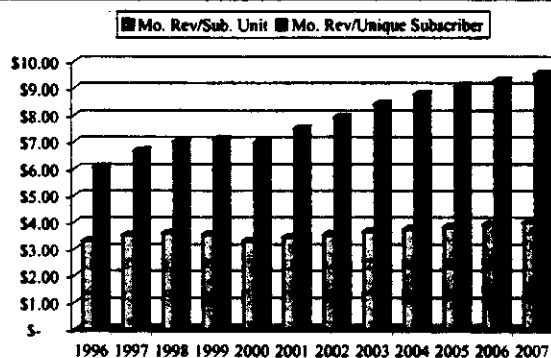
**Revenue analysis.** From 1996 to 2001, premium service revenues increased at a 10–11% CAGR, in line with premium subscription growth. To date, the premium movie services have sacrificed pricing power in an effort to grow their subscriber bases. This strategy makes sense to us, given the heightened fixed cost leverage within the industry. The primary operating costs within the industry — programming and SG&A — do not vary significantly with subscriber levels.

From 2002 to 2007, we expect premium industry revenue growth of 6.5–7.0%, roughly 200 basis points above subscriber growth. We expect Starz Encore to lead the group in terms of subscriber growth, since its low-cost multiplex offering is best positioned to capture a greater share of the incremental digital video subscribers. HBO, which has the largest subscriber base, should be able to exert the highest pricing power in the industry.

As illustrated in Exhibit 57, we expect revenue per subscription unit to remain relatively constant through 2007, while we expect revenue per unique subscriber to increase at a 2.5–3.0% CAGR. The discrepancy reflects an increase in subscribers taking digital packages that include multiple premium channels from each provider. In 2000 and 2001, both revenue per subscription unit and subscriber remained relatively constant. We believe this reflects the premium networks' decision to hold monthly wholesale fees stable to better enable the operators to boost digital video penetration through bundled discounting. Now that a critical base of digital subscribers has been established, we expect the premium networks to pass through moderate (2–3%) annual price increases in their digital packages. We believe our pricing assumptions are relatively conservative, since all of the premium networks have enhanced the breadth and depth of their digital packages.

Exhibit 57

### Premium Revenue Analysis



Source: Morgan Stanley Research

We have not reflected incremental revenue from subscription VOD services in our revenue forecast. We believe SVOD could increase annual revenue growth an additional 150 basis points to 8–9%. We estimate that the premium-service provider would garner 50% of the incremental retail revenue charged for SVOD, with the remainder captured by the cable operator.

**Operating cost analysis.** We estimate that programming costs, including acquired film rights and original programming, represent approximately 44–46% of total premium network revenue. We expect this ratio to remain relatively constant through 2007, based on our assumption that film acquisition costs increase 6–8% per year. Assuming that film acquisition costs increase in step with revenue growth, the primary source of operating leverage we see for the

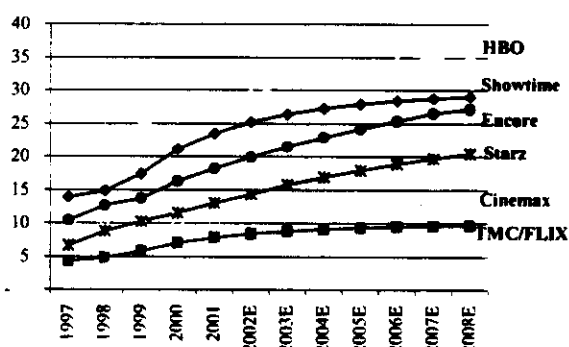
premium providers is in spreading SG&A costs across a greater revenue base. In addition, subscription VOD services should enhance profitability by providing incremental revenue without affecting film acquisition costs. (The majority of the premium providers have signed long-term output deals with studios that allow for SVOD distribution.)

We estimate that the premium movie networks spend approximately \$4–6 million per first-run feature film. In general, these costs are capitalized and amortized over a three-year period, with 70% of the costs expensed in the first year upon delivery of the film by the studio, 20% in the second year, and 10% in the third year.

**Competitive analysis of premium television networks.** In our view, a comparison of the three premium television networks could be a case study in Michael Porter's Competitive Strategies. Differentiation — through price, quality, or demographic focus — has allowed each of the networks to grow its respective distribution base while enhancing operating profitability.

Exhibit 58

## Premium Network Subscriber Forecast



Source: Morgan Stanley Research

**HBO: The differentiated industry leader.** In our view, HBO, the first premium movie service (introduced in 1972), has continued to reinvent itself to be the “premium” premium entertainment provider. We believe the company’s ability to differentiate itself from both other premium providers and broadcast and cable networks has afforded HBO a more inelastic demand curve than its competitors.

Over the past few years, HBO has transformed itself from a premium movie and sports entertainment provider to more of an outlet for original programming not available on

broadcast television. Since 1999, HBO has introduced *Sex in the City*, *The Sopranos*, *Band of Brothers*, and most recently, *Six Feet Under*. This strategy has paid off, as HBO has pushed its unique subscriber base up to 28 million in 2001 from 25 million in 1999.

While HBO’s operating margins are below that of Starz Encore, the company’s higher price point has led to an expansion in EBITDA margins from approximately 24% in 1999 to 30% in 2001. Furthermore, HBO’s value is enhanced through its ability to pass profits on to the Warner Brothers’ filmed entertainment division through long-term film-output deals. We believe there are inherent advantages in keeping the control of content in-house. HBO is guaranteed a constant flow of content without the pressure of contract renegotiations. In addition, HBO can coordinate its marketing efforts with Time Warner Cable and has increased control over the availability of its content on SVOD services. In many markets, AOL Time Warner captures 100% of retail revenue from a premium subscriber through the combination of Warner Brothers filmed entertainment, HBO, and Time Warner Cable.

**Starz Encore: The cost leader.** Starz markets itself as the highest-value premium movie service targeted to the digital-video market. The company holds a tight reign on its operating costs through headcount of only 500–600 employees (compared to 1,500–1,600 at HBO) and minimal marketing spending. As a result, Starz Encore boasts the highest EBITDA margins in the industry, at 36% in 2001, compared to 30% at HBO and 20% at Showtime. Reflective of its lean operating cost structure, Starz has demonstrated tremendous fixed-cost leverage over the past five years, growing EBITDA from a \$75 million deficit in 1996 to a positive \$313 million in 2001.

The company provides consumers with the value proposition of the widest selection of multiplex channels that offer a mix of new releases on its STARZ! platform and older releases across its Encore channels. The network does not develop original programming, but rather focuses on providing the widest array of new releases and classic films. In an effort to keep film acquisition costs lower than its competitors, Starz accepts a large percentage of its films in later release windows on a non-exclusive basis.

We estimate that on average, Starz Encore collects \$4.00–4.20 per month in programming revenue per unique subscribing household. In terms of revenue per subscription unit (i.e., Starz and Encore count as two subscription units),

we estimate that Starz Encore generates \$2.40–2.45 per unit, compared to \$5.20–5.25 for HBO and \$2.70–2.75 for Showtime.

On most cable and DBS systems, the Starz SuperPak of 12 digital premium channels is available for approximately \$12 per month. Since the cable and satellite operators' programming costs for Starz is significantly lower than this retail price, operators have an incentive to offer price discounts on Starz to boost digital penetration levels.

**Showtime: The focused differentiator.** We believe that for many years, Showtime fell in-between HBO and Starz Encore, as a lower-cost alternative to HBO with first-run movies complemented by original series, without the same value proposition as Starz Encore. Over the past few years, we believe Showtime has broken out of this mold by being a "focused differentiation" — a provider of premium content with a wide audience appeal, interspersed with programming tailored for specific target demographics.

The network's introduction of *Queer as Folk*, the first television series targeting the homosexual community, exemplifies Showtime's focus on a specific target audience. After introducing the series in 2000, Showtime's reported subscriber base increased 22% in 2000 and another 11% in

2001. In addition to alternative lifestyle programming, the network boasts other series targeted at specific demographics, including *Soul Food*, which centers on a multi-generational African American family, and *Resurrection Blvd.*, the first English-language US series featuring the Hispanic community. In addition, the *Showtime No Limits* late-night programming provides adult entertainment not available on basic cable.

As an operating business of Viacom, Showtime benefits from its relationship with Paramount Studios in a way similar to HBO and Warner Brothers. In short, the key is to keep as much of the revenue from the premium television window in the family, which makes the performance of the film studio significantly more important, in our view. If Paramount Studios produces strong box-office performers, it should receive marginally higher programming fees from sister Showtime Networks, which in turn should have superior programming to offer its subscribers. (A small portion of long-term output contracts varies, based on box office performance, subject to a cap and floor.) Since film studios are generally not profitable within the theatrical window, we believe the ability to monetize films within a sister premium movie service is essential to realizing a studio's investment in feature films.

## Exhibit 59

## Premium Network: Revenue Analysis

(in millions)	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007
<b>Subscriber License Fees</b>												
HBO	1,724.2	1,853.0	1,998.4	2,093.0	2,093.0	2,369.8	2,604.1	2,851.1	3,037.0	3,210.1	3,375.1	3,516.7
Starz Encore	199.0	355.0	532.0	640.0	733.0	863.0	965.7	1,071.0	1,181.9	1,281.4	1,377.0	1,471.6
Showtime	602.3	679.1	748.9	798.6	876.4	963.8	1,051.9	1,137.1	1,210.6	1,271.9	1,327.7	1,374.3
<b>Premium Network Total</b>	<b>2,525.5</b>	<b>2,887.1</b>	<b>3,279.3</b>	<b>3,531.6</b>	<b>3,702.4</b>	<b>4,196.6</b>	<b>4,621.7</b>	<b>5,059.3</b>	<b>5,429.5</b>	<b>5,763.4</b>	<b>6,079.7</b>	<b>6,362.6</b>
<b>% Change</b>		<b>14.3%</b>	<b>13.6%</b>	<b>7.7%</b>	<b>4.8%</b>	<b>13.3%</b>	<b>10.1%</b>	<b>9.5%</b>	<b>7.3%</b>	<b>6.1%</b>	<b>5.3%</b>	<b>4.7%</b>
<b>Aggregate Subscription Units</b>	<b>63.4</b>	<b>68.2</b>	<b>75.8</b>	<b>82.9</b>	<b>93.1</b>	<b>101.1</b>	<b>108.6</b>	<b>115.2</b>	<b>120.5</b>	<b>125.2</b>	<b>129.3</b>	<b>132.3</b>
<b>Monthly Revenue per Subscription Unit</b>	<b>\$3.32</b>	<b>\$3.53</b>	<b>\$3.61</b>	<b>\$3.55</b>	<b>\$3.32</b>	<b>\$3.46</b>	<b>\$3.55</b>	<b>\$3.66</b>	<b>\$3.75</b>	<b>\$3.84</b>	<b>\$3.92</b>	<b>\$4.01</b>
<b>Aggregate Unique Subscribers</b>	<b>34.6</b>	<b>36.0</b>	<b>38.9</b>	<b>41.4</b>	<b>44.2</b>	<b>46.5</b>	<b>48.5</b>	<b>50.0</b>	<b>51.5</b>	<b>52.9</b>	<b>54.6</b>	<b>55.6</b>
<b>Monthly Revenue per Unique Subscriber</b>	<b>\$6.08</b>	<b>\$6.67</b>	<b>\$7.02</b>	<b>\$7.11</b>	<b>\$6.98</b>	<b>\$7.51</b>	<b>\$7.94</b>	<b>\$8.43</b>	<b>\$8.79</b>	<b>\$9.08</b>	<b>\$9.28</b>	<b>\$9.53</b>
<b>HBO</b>												
Subscription Revenue	1,724.2	1,853.0	1,998.4	2,093.0	2,093.0	2,369.8	2,604.1	2,851.1	3,037.0	3,210.1	3,375.1	3,516.7
Avg. Subscription Units	32.4	32.7	33.8	35.2	36.4	37.8	39.6	41.7	43.6	45.1	46.5	47.5
Monthly Revenue per Subscription Unit	\$4.43	\$4.73	\$4.93	\$4.96	\$4.80	\$5.23	\$5.48	\$5.70	\$5.81	\$5.93	\$6.05	\$6.17
Avg. Unique Subscribing HH	22.8	23.6	24.5	25.5	26.6	28.1	29.7	31.3	32.7	34.0	35.2	36.0
Monthly Revenue per subscribing HH	\$6.30	\$6.53	\$6.79	\$6.84	\$6.56	\$7.03	\$7.32	\$7.60	\$7.73	\$7.86	\$7.99	\$8.13
<b>Showtime</b>												
Subscription Revenue	602.3	679.1	748.9	798.6	876.4	963.8	1,051.9	1,137.1	1,210.6	1,271.9	1,327.7	1,374.3
Subscription Units	15.9	18.2	19.7	23.2	28.2	31.3	33.6	35.2	36.3	37.1	37.8	38.3
Avg. Subscription Units	15.4	17.1	19.0	21.5	25.7	29.8	32.5	34.4	35.7	36.7	37.5	38.0
Affiliate Fee per Sub	\$3.27	\$3.32	\$3.29	\$3.10	\$2.84	\$2.70	\$2.70	\$2.75	\$2.82	\$2.89	\$2.95	\$3.01
Avg. Unique Subscribing HH	12.0	13.1	14.4	16.1	19.3	22.3	24.4	25.8	26.8	27.5	28.1	28.5
Revenue per subscribing HH	\$4.18	\$4.31	\$4.33	\$4.12	\$3.79	\$3.60	\$3.60	\$3.67	\$3.76	\$3.85	\$3.93	\$4.01
<b>Starz Encore</b>												
Subscription Revenue	199.0	355.0	532.0	640.0	733.0	863.0	965.7	1,071.0	1,181.9	1,281.4	1,377.0	1,471.6
Subscription Units (Starz & Encore)	15.1	17.1	21.5	24.0	27.9	31.2	34.3	37.3	39.8	42.1	44.3	46.2
Avg. Subscription Units (Starz & Encore)	13.0	16.1	19.3	22.7	25.9	29.6	32.8	35.8	38.6	41.0	43.2	45.2
Affiliate Fee per Sub	\$1.28	\$1.84	\$2.30	\$2.35	\$2.36	\$2.43	\$2.46	\$2.50	\$2.55	\$2.60	\$2.66	\$2.71
Avg. Unique Subscribing HH	9.0	10.3	11.6	13.2	15.0	17.3	19.1	20.7	22.2	23.6	24.8	26.0
Revenue per subscribing HH	\$1.84	\$2.87	\$3.84	\$4.04	\$4.06	\$4.17	\$4.22	\$4.31	\$4.43	\$4.53	\$4.63	\$4.72
<b>Revenue per Subscription Unit</b>	<b>1996</b>	<b>1997</b>	<b>1998</b>	<b>1999</b>	<b>2000</b>	<b>2001</b>	<b>2002</b>	<b>2003</b>	<b>2004</b>	<b>2005</b>	<b>2006</b>	<b>2007</b>
HBO	\$4.43	\$4.73	\$4.93	\$4.96	\$4.80	\$5.23	\$5.48	\$5.70	\$5.81	\$5.93	\$6.05	\$6.17
Showtime	\$3.27	\$3.32	\$3.29	\$3.10	\$2.84	\$2.70	\$2.70	\$2.75	\$2.82	\$2.89	\$2.95	\$3.01
Starz Encore	\$1.28	\$1.84	\$2.30	\$2.35	\$2.36	\$2.43	\$2.46	\$2.50	\$2.55	\$2.60	\$2.66	\$2.71
<b>Average</b>	<b>\$2.99</b>	<b>\$3.30</b>	<b>\$3.51</b>	<b>\$3.47</b>	<b>\$3.33</b>	<b>\$3.45</b>	<b>\$3.54</b>	<b>\$3.65</b>	<b>\$3.73</b>	<b>\$3.81</b>	<b>\$3.88</b>	<b>\$3.96</b>
<b>Revenue per Subscriber</b>												
HBO	\$6.30	\$6.53	\$6.79	\$6.84	\$6.56	\$7.03	\$7.32	\$7.60	\$7.73	\$7.86	\$7.99	\$8.13
Showtime	\$4.18	\$4.31	\$4.33	\$4.12	\$3.79	\$3.60	\$3.60	\$3.67	\$3.76	\$3.85	\$3.93	\$4.01
Starz Encore	\$1.84	\$2.87	\$3.84	\$4.04	\$4.06	\$4.17	\$4.22	\$4.31	\$4.43	\$4.53	\$4.63	\$4.72
<b>Average</b>	<b>\$4.11</b>	<b>\$4.57</b>	<b>\$4.99</b>	<b>\$5.00</b>	<b>\$4.81</b>	<b>\$4.93</b>	<b>\$5.05</b>	<b>\$5.19</b>	<b>\$5.31</b>	<b>\$5.41</b>	<b>\$5.52</b>	<b>\$5.62</b>

E = Morgan Stanley Research Estimates

**Exhibit 60**  
**Premium Network: Operating Cost Analysis**

(in millions)	1996	1997	1998	1999	2000	2001E	2002E	2003E	2004E	2005E	2006E	2007E
<b>Total Programming Costs</b>												
Starz Encore	193	261	306	333	362	420	463	506	548	589	631	673
% of revenue	97.2%	73.6%	57.5%	52.0%	49.4%	48.7%	48.0%	47.3%	46.3%	45.9%	45.8%	45.8%
HBO	969.6	969.6	969.6	969.6	1,002.2	1,062.3	1,163.5	1,270.2	1,350.5	1,425.2	1,496.5	1,571.3
% of revenue	56.2%	52.3%	48.5%	46.3%	47.9%	44.8%	44.7%	44.5%	44.5%	44.4%	44.3%	44.7%
Showtime	220.9	193.0	283.9	337.5	379.1	419.2	444.3	466.8	488.8	512.0	536.1	561.4
% of revenue	36.7%	28.4%	37.9%	42.3%	43.3%	43.5%	42.2%	41.1%	40.4%	40.3%	40.4%	40.9%
Mean	63.4%	51.4%	48.0%	46.9%	46.8%	45.7%	45.0%	44.3%	43.7%	43.5%	43.5%	43.8%
<b>Other Operating Costs as a % of Revenue</b>												
Starz Encore	40.5%	34.3%	23.7%	22.2%	18.6%	15.0%	14.3%	13.8%	13.4%	13.2%	13.0%	12.9%
HBO	37.4%	35.2%	32.2%	32.1%	29.6%	27.5%	25.4%	24.4%	24.1%	23.7%	23.5%	23.4%
Showtime	39.8%	37.9%	30.4%	28.2%	27.2%	26.1%	26.0%	25.7%	25.3%	25.0%	24.7%	24.5%
Mean	39.2%	35.8%	28.8%	27.5%	25.1%	22.9%	21.9%	21.3%	20.9%	20.6%	20.4%	20.3%
<b>EBITDA</b>												
Starz Encore	(75.0)	(28.0)	100.0	165.0	235.0	313.0	364.5	417.2	476.1	524.3	567.2	608.7
Margin %	-37.7%	-7.9%	18.8%	25.8%	32.1%	36.3%	37.7%	39.0%	40.3%	40.9%	41.2%	41.4%
HBO	413.0	477.0	556.0	528.0	588.0	736.1	834.9	939.5	1,014.3	1,082.7	1,146.7	1,185.4
Margin %	21.5%	23.2%	25.6%	24.3%	26.2%	29.9%	31.0%	31.9%	32.4%	32.8%	33.1%	32.9%
Showtime	90.1	105.0	120.6	138.0	166.4	196.6	230.7	269.3	305.1	329.8	349.4	360.3
Margin %	12.9%	14.5%	16.1%	17.3%	19.0%	20.4%	21.9%	23.7%	25.2%	25.9%	26.3%	26.2%
<b>Aggregate EBITDA</b>	428.1	554.0	776.6	831.0	989.4	1,245.8	1,430.2	1,626.1	1,795.5	1,936.8	2,063.2	2,154.4
Change %		29.4%	40.2%	7.0%	19.1%	25.9%	14.8%	13.7%	10.4%	7.9%	6.5%	4.4%
Margin %	17.0%	19.2%	23.7%	23.5%	26.7%	29.7%	30.9%	32.1%	33.1%	33.6%	33.9%	33.9%

E = Morgan Stanley Research Estimates